

=> file biosis caba caplus embase lifesci medline scisearch

=> e mollenhauer jan/au

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E1      18      MOLLENHAUER J A/AU
E2       2      MOLLENHAUER J DR/AU
E3     156 --> MOLLENHAUER JAN/AU
E4       4      MOLLENHAUER JAN DR/AU
E5       2      MOLLENHAUER JOCHEN/AU
E6       1      MOLLENHAUER JUEGEN/AU
E7      62      MOLLENHAUER JUERGEN/AU
E8      39      MOLLENHAUER JUERGEN A/AU
E9       1      MOLLENHAUER JUERGEN A DR/AU
E10     25      MOLLENHAUER JURGEN/AU
E11     2       MOLLENHAUER JURGEN A/AU
E12     1       MOLLENHAUER JURGEN DR/AU
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=> s e1-e4 and Dmbt?

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L1      118 ("MOLLENHAUER J A"/AU OR "MOLLENHAUER J DR"/AU OR "MOLLENHAUER
        JAN"/AU OR "MOLLENHAUER JAN DR"/AU) AND DMBT?
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=> dup rem l1

PROCESSING COMPLETED FOR L1

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L2      41 DUP REM L1 (77 DUPLICATES REMOVED)
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=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 41 ANSWERS - CONTINUE? Y/(N):y

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L2      ANSWER 1 OF 41  CAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 1
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AN      2009:402136  CAPLUS <<LOGINID::20090423>>
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DN      150:327861
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TI      ***DMBT1***  functions as pattern-recognition molecule for
poly-sulfated and poly-phosphorylated ligands
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```
AU      End, Caroline; Bikker, Floris; Renner, Marcus; Bergmann, Gaby; Lyer,
Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard; Gassler,
Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner, Axel;
Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.; Rosenstiel,
Philip; Sina, Christian; Franke, Andre; Hafner, Mathias; Kioschis, Petra;
Schreiber, Stefan; Poustka, Annemarie;  ***Mollenhauer, Jan***
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CS      Division of Molecular Genome Analysis, German Cancer Research Center,
Heidelberg, Germany
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SO      European Journal of Immunology (2009), 39(3), 833-842
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CODEN: EJIMAF; ISSN: 0014-2980
```

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PB      Wiley-VCH Verlag GmbH & Co. KGaA
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DT      Journal
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LA      English
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```
AB      Deleted in malignant brain tumors 1 ( ***DMBT1*** ) is a secreted
glycoprotein displaying a broad bacterial-binding spectrum. Recent
functional and genetic studies linked ***DMBT1*** to the suppression
of LPS-induced TLR4-mediated NF-.kappa.B activation and to the
pathogenesis of Crohn's disease. Here, the authors aimed at unraveling
the mol. basis of its function in mucosal protection and of its broad
pathogen-binding specificity. The authors report that ***DMBT1***
directly interacts with dextran sulfate sodium (DSS) and carrageenan, a
structurally similar sulfated polysaccharide, which is used as a
texturizer and thickener in human dietary products. However, binding of
***DMBT1*** does not reduce the cytotoxic effects of these agents to
intestinal/epithelial cells in vitro. DSS and carrageenan compete for
***DMBT1*** -mediated bacterial aggregation via interaction with its
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bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in ***Dmbt1*** -/- and ***Dmbt1*** +/- mice utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that ***DMBT1*** functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L2 ANSWER 2 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2

AN 2009:132171 BIOSIS <<LOGINID::20090423>>

DN PREV200900132171

TI ***DMBT1*** expression distinguishes anorectal from cutaneous melanoma.

AU Helmke, Burkhard Maria [Reprint Author]; Renner, Marcus; Poustka, Annemarie; Schirmacher, Peter; ***Mollenhauer, Jan*** ; Kern, Michael Andre

CS Univ Heidelberg, Inst Pathol, Neuenheimer Feld 220-221, D-69120 Heidelberg, Germany
burkhard.helmke@elbekliniken.de

SO Histopathology (Oxford), (JAN 2009) Vol. 54, No. 2, pp. 233-240.
ISSN: 0309-0167.

DT Article

LA English

ED Entered STN: 18 Feb 2009

Last Updated on STN: 25 Feb 2009

AB Anorectal melanoma (AM) forms a rare but highly malignant subset of mucosal melanoma with an extremely poor prognosis. Although AMs display histological and immunohistochemical features very similar to cutaneous melanoma (CM), no association exists either with exposure to ultraviolet light or with melanocytic naevi. While AMs are clearly distinguished from CM by displaying few BRAF mutations, they are commonly indistinguishable from CM at the level of gene expression. The aim was to carry out expression analyses of classical immunohistochemical markers and of the protein deleted in malignant brain tumours 1 (***DMBT1***) in cases of primary anorectal malignant melanoma and CM. Expression analyses of classical immunohistochemical markers (S100, HMB45, Melan A and MiTF) and of the protein ***DMBT1*** were carried out in 27 cases of primary anorectal malignant melanoma and 26 cases of CM. All AM cases analysed showed expression of at least three of the classical markers for melanoma. However, immunohistochemistry showed 19 out of 27 AM to be positive for ***DMBT1*** , which represented a statistically significant difference

(P = 0.0009) compared with CM (six out of 26), which more commonly are negative for ***DMBT1*** expression. These results identify ***DMBT1*** as a molecular feature that may allow distinction between AM and CM and support the notion that AM represents an entity molecularly distinct from CM.

L2 ANSWER 3 OF 41 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 3

AN 2008:1435519 CAPLUS <<LOGINID::20090423>>

TI Application of a global proteomic approach to archival precursor lesions: deleted in malignant brain tumors 1 and tissue transglutaminase 2 are

upregulated in pancreatic cancer precursors

AU Wang, Cheung; Darfler, Marlene M.; Alvarez, Hector; Hood, Brian L.;
Conrads, Thomas P.; Habbe, Nils; Krizman, David B.; ***Mollenhauer,***
*** Jan*** ; Feldmann, Georg; Maitra, Anirban

CS Department of Pathology, The Sol Goldman Pancreatic Cancer Research
Center, Johns Hopkins University School of Medicine, Baltimore, MD, USA

SO Pancreatology (2008), 8(6), 608-616
CODEN: PANCC2; ISSN: 1424-3903

PB S. Karger AG

DT Journal

LA English

AB Background: Pancreatic cancer is an almost uniformly fatal disease, and
early detection is a crit. determinant of improved survival. A variety of
noninvasive precursor lesions of pancreatic adenocarcinoma have been
identified, which provide a unique opportunity for intervention prior to
onset of invasive cancer. Biomarker discovery in precursor lesions has
been hampered by the ready availability of fresh specimens, and limited
yields of proteins suitable for large scale screening. Methods: We
utilized Liq. Tissue, a novel technique for protein extn. from archival
formalin-fixed material, and mass spectrometry to conduct a global
proteomic anal. of an intraductal papillary mucinous neoplasm (IPMN).
Tissue microarrays comprised of 38 IPMNs were used for validation of
candidate proteins. Results: The proteomic anal. of the IPMN Liq. Tissue
lysate resulted in identification of 1,534 peptides corresponding to 523
unique proteins. A subset of 25 proteins was identified that had
previously been reported as upregulated in pancreatic cancer.
Immunohistochem. anal. for two of these, deleted in malignant brain tumors
1 (***DMBT1***) and tissue transglutaminase 2 (TGM2), confirmed their
overexpression in IPMNs. Conclusion: Global proteomics anal. using the
Liq. Tissue workflow is a feasible approach for unbiased biomarker
discovery in limited archival material, particularly applicable to
precursor lesions of cancer.

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 41 MEDLINE on STN

AN 2008707708 MEDLINE <<LOGINID::20090423>>

DN PubMed ID: 18849643

TI Application of a global proteomic approach to archival precursor lesions:
deleted in malignant brain tumors 1 and tissue transglutaminase 2 are
upregulated in pancreatic cancer precursors.

AU Cheung Wang; Darfler Marlene M; Alvarez Hector; Hood Brian L; Conrads
Thomas P; Habbe Nils; Krizman David B; ***Mollenhauer Jan*** ; Feldmann
Georg; Maitra Anirban

CS Department of Pathology, The Sol Goldman Pancreatic Cancer Research
Center, Johns Hopkins University School of Medicine, Baltimore, MD 21231,
USA.

NC P50CA62924 (United States NCI NIH HHS)

SO Pancreatology : official journal of the International Association of
Pancreatology (IAP) ... [et al.], (2008) Vol. 8, No. 6, pp. 608-16.
Electronic Publication: 2008-10-13.
Journal code: 100966936. E-ISSN: 1424-3911.

CY Switzerland

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals
 EM 200812
 ED Entered STN: 3 Nov 2008
 Last Updated on STN: 2 Jan 2009
 Entered Medline: 17 Dec 2008
 AB BACKGROUND: Pancreatic cancer is an almost uniformly fatal disease, and early detection is a critical determinant of improved survival. A variety of noninvasive precursor lesions of pancreatic adenocarcinoma have been identified, which provide a unique opportunity for intervention prior to onset of invasive cancer. Biomarker discovery in precursor lesions has been hampered by the ready availability of fresh specimens, and limited yields of proteins suitable for large scale screening. METHODS: We utilized Liquid Tissue, a novel technique for protein extraction from archival formalin-fixed material, and mass spectrometry to conduct a global proteomic analysis of an intraductal papillary mucinous neoplasm (IPMN). Tissue microarrays comprised of 38 IPMNs were used for validation of candidate proteins. RESULTS: The proteomic analysis of the IPMN Liquid Tissue lysate resulted in identification of 1,534 peptides corresponding to 523 unique proteins. A subset of 25 proteins was identified that had previously been reported as upregulated in pancreatic cancer. Immunohistochemical analysis for two of these, deleted in malignant brain tumors 1 (***DMBT1***) and tissue transglutaminase 2 (TGM2), confirmed their overexpression in IPMNs. CONCLUSION: Global proteomics analysis using the Liquid Tissue workflow is a feasible approach for unbiased biomarker discovery in limited archival material, particularly applicable to precursor lesions of cancer.
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L2 ANSWER 5 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
 DUPLICATE 4
 AN 2007:440147 BIOSIS <<LOGINID::20090423>>
 DN PREV200700436905
 TI Regulation of ***DMBT1*** via NOD2 and TLR4 in intestinal epithelial cells modulates bacterial recognition and invasion.
 AU Rosenstiel, Philip; Sina, Christian; End, Caroline; Renner, Marcus; Lyer, Stefan; Till, Andreas; Hellmig, Stephan; Nikolaus, Susanna; Foelsch, Ulrich R.; Helmke, Burkhard; Autschbach, Frank; Schirmacher, Peter; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; ***Mollenhauer,***
 *** Jan*** ; Schreiber, Stefan [Reprint Author]
 CS Univ Hosp Schleswig Holstein, Inst Clin Mol Biol, Campus
 Kiel, Schittenhelmstrache 12, Kiel, Germany
 s.schreiber@mucosa.de
 SO Journal of Immunology, (JUN 15 2007) Vol. 178, No. 12, pp. 8203-8211.
 CODEN: JOIMA3. ISSN: 0022-1767.
 DT Article
 LA English
 ED Entered STN: 15 Aug 2007
 Last Updated on STN: 15 Aug 2007
 AB Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. Deleted in malignant brain tumors 1 (***DMBT1***) belongs to the group of secreted scavenger receptor cysteine-rich proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of ***DMBT1*** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. We report that intestinal epithelial cells up-regulate ***DMBT1*** upon proinflammatory stimuli (e.g., TNF-alpha, LPS). We demonstrate that ***DMBT1*** is a target

gene for the intracellular pathogen receptor NOD2 via NF-kappa B activation. ***DMBT1*** is strongly up-regulated in the inflamed intestinal mucosa of Crohn's disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of Salmonella enterica and LPS- and muramyl dipeptide-induced NF-kappa B activation and cytokine secretion in vitro. Thus, ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn's disease.

L2 ANSWER 6 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 5

AN 2007:421389 BIOSIS <<LOGINID::20090423>>

DN PREV200700416637

TI Genetic mapping in mice identifies ***DMBT1*** as a candidate modifier of mammary tumors and breast cancer risk.

AU Blackburn, Anneke C.; Hill, Linda Z.; Roberts, Amy L.; Wang, Jun; Aud, Dee; Jung, Jimmy; Nikolcheva, Tania; Allard, John; Peltz, Gary; Otis, Christopher N.; Cao, Qing J.; Ricketts, Reva St. J.; Naber, Stephen P.; ***Mollenhauer, Jan*** ; Poustka, Annemarie; Malamud, Daniel; Jerry, D. Joseph [Reprint Author]

CS Univ Massachusetts, Dept Vet and Anim Sci, Paige Lab, 161 Holdsworth Way, Amherst, MA 01003 USA
jjerry@vasci.umass.edu

SO American Journal of Pathology, (JUN 2007) Vol. 170, No. 6, pp. 2030-2041. CODEN: AJPA44. ISSN: 0002-9440.

DT Article

LA English

ED Entered STN: 8 Aug 2007

Last Updated on STN: 8 Aug 2007

AB Low-penetrance breast cancer susceptibility alleles seem to play a significant role in breast cancer risk but are difficult to identify in human cohorts. A genetic screen of 176 N2 backcross progeny of two Trp53(+/-) strains, BALB/c and C57BL/6, which differ in their susceptibility to mammary tumors, identified a modifier of mammary tumor susceptibility in an similar to 25-Mb interval on mouse chromosome 7 (designated SuprMam1). Relative to heterozygotes, homozygosity for BALB/c alleles of SuprMam1 significantly decreased mammary tumor latency from 70.7 to 61.1 weeks and increased risk twofold (P = 0.002). ***Dmbt1*** (deleted in malignant brain tumors 1) was identified as a candidate modifier gene within the SuprMam1 interval because it was differentially expressed in mammary tissues from BALB/c-Trp53(+/-) and C57BL/6-Trp53(+/-) mice. ***Dmbt1*** mRNA and protein was reduced in mammary glands of the susceptible BALB/c mice. Immunohistochemical staining demonstrated that ***DMBT1*** protein expression was also significantly reduced in normal breast tissue from women with breast cancer (staining score, 1.8; n = 46) compared with cancer-free controls (staining score, 3.9; n = 53; P < 0.0001). These experiments demonstrate the use of Trp53(+/-) mice as a sensitized background to screen for low-penetrance modifiers of cancer. The results identify a novel mammary tumor susceptibility locus in mice and support a role for ***DMBT1*** in suppression of inammary tumors in both miceandwomen.

L2 ANSWER 7 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 6

AN 2008:112593 BIOSIS <<LOGINID::20090423>>
DN PREV200800114726
TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.
AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; ***Mollenhauer, Jan***
[Reprint Author]
CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de
SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.
DT Article
LA English
ED Entered STN: 13 Feb 2008
Last Updated on STN: 13 Feb 2008
AB Background & Aims: Impaired mucosal. defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1(***DMBT1***) is a secreted scavenger receptor cysteine-rich protein with predominant expression in. the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We studied ***DMBT1*** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within ***DMBT1*** were analyzed in an Italian IBD case-control sample. ***Dmbt1*** (-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced: number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P =.00056; odds ratio, 1.75) but not for ulcerative colitis. ***Dmbt1*** (-/-) mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L2 ANSWER 8 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 7
AN 2007:411406 BIOSIS <<LOGINID::20090423>>
DN PREV200700411064
TI ***DMBT1*** is frequently downregulated in well-differentiated gastric carcinoma but more frequently upregulated across various gastric cancer types.
AU Conde, Ana R. [Reprint Author]; Martins, Ana P.; Brito, Miguel; Manuel,

Armandina; Ramos, Sancia; Malta-Vacas, Joana; Renner, Marcus; Poustka, Annemarie; ***Mollenhauer, Jan*** ; Monteiro, Carolino

CS Univ Lisbon, Fac Farm, Av Prof Gama Pinto, P-1649003 Lisbon, Portugal
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SO International Journal of Oncology, (JUN 2007) Vol. 30, No. 6, pp. 1441-1446.
ISSN: 1019-6439.

DT Article

LA English

ED Entered STN: 1 Aug 2007
Last Updated on STN: 1 Aug 2007

AB Well-differentiated gastric carcinomas are considered to represent a distinct entity emerging via specific molecular changes different from those found in other gastric carcinoma types. The gene deleted in malignant brain tumours 1 (***DMBT1***) at 10q25.3-q26.1 codes for a protein presumably involved in cell differentiation and protection and has been proposed as a candidate tumour suppressor for brain and epithelial cancer. One study reported a loss of ***DMBT1*** expression in 12.5% (5/40) of gastric cancer samples. Here, we examined in more detail ***DMBT1*** protein and mRNA expression in 78 primary gastric tumour samples and corresponding normal gastric mucosa. ***DMBT1*** was expressed in all non-tumour gastric mucosa tissues. Eleven out of 71 (15%) gastric tumours were negative for the ***DMBT1*** protein in immunohistochemical analyses. Lack of ***DMBT1*** expression was significantly more frequently found in well-differentiated gastric tumours (6/18 well-differentiated tumours vs. 5/53 other subtypes; P=0.025). Quantitative RT-PCR revealed a downregulation of the ***DMBT1*** mRNA for 8/21 (38%) cases, while the remaining 13 cases (62%) displayed a substantial upregulation. Our data suggest that a loss of ***DMBT1*** expression may preferentially take place in well-differentiated gastric carcinoma. However, an upregulation of ***DMBT1*** expression is more frequently found across all gastric cancer types.

L2 ANSWER 9 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 8

AN 2008:70436 BIOSIS <<LOGINID::20090423>>

DN PREV200800053239

TI Salivary agglutinin/glycoprotein-340/ ***DMBT1*** : a single molecule with variable composition and with different functions in infection, inflammation and cancer.

AU Ligtenberg, Antoon J. M. [Reprint Author]; Veerman, Enno C. I.; Nieuw Amerongen, Arie V.; ***Mollenhauer, Jan***

CS Free Univ Amsterdam, Acad Ctr Dent, Dept Oral Biochem, Boechorststr 7, NL-1081 BT Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Biological Chemistry, (DEC 2007) Vol. 388, No. 12, pp. 1275-1289.
ISSN: 1431-6730.

DT Article

LA English

ED Entered STN: 9 Jan 2008
Last Updated on STN: 9 Jan 2008

AB Salivary agglutinin (SAG), lung glycoprotein-340 (gp-340) and Deleted in Malignant Brain Tumours 1 (***DMBT1***) are three names for identical proteins encoded by the ***dmbt1*** gene. ***DMBT1*** /SAG/gp-340 belongs to the scavenger receptor cysteine-rich (SRCR) superfamily of proteins, a superfamily of secreted or membrane-bound proteins with SRCR

domains that are highly conserved down to sponges, the most ancient metazoa. On the one hand, ***DMBT1*** may represent an innate defence factor acting as a pattern recognition molecule. It interacts with a broad range of pathogens, including cariogenic streptococci and *Helicobacter pylori*, influenza viruses and HIV, but also with mucosal defence proteins, such as IgA, surfactant proteins and MUC5B. Stimulation of alveolar macrophage migration, suppression of neutrophil oxidative burst and activation of the complement cascade point further to an important role in the regulation of inflammatory responses. On the other hand, ***DMBT1*** has been demonstrated to play a role in epithelial and stem cell differentiation. Inactivation of the gene coding for this protein may lead to disturbed differentiation, possibly resulting in tumour formation. These data strongly point to a role for ***DMBT1*** as a molecule linking innate immune processes with regenerative processes.

L2 ANSWER 10 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 9

AN 2007:601740 BIOSIS <<LOGINID::20090423>>

DN PREV200700605050

TI ***Dmbt1*** is a target gene of NOD2/CARD15 and protects intestinal epithelial cells from bacterial invasion.

AU Rosenstiel, Philip; Sina, Christian; Hellmig, Stephan; Nikolaus, Susanna; End, Caroline; Renner, Markus; Lyer, Stephan; Helmke, Burkhard; Hafner, Mathias; Poustka, Annemarie; ***Mollenhauer, Jan*** ; Schreiber, Stefan

SO Gastroenterology, (APR 2007) Vol. 132, No. 4, Suppl. 2, pp. A550.
Meeting Info.: Digestive Disease Week Meeting/108th Annual Meeting of the American-Gastroenterological-Association. Washington, DC, USA. May 19 -24, 2007. Amer Gastroenterol Assoc; Amer Assoc Study Liver Dis; Amer Soc Gastrointestinal Endoscopy; Soc Surg Alimentary Tract.
CODEN: GASTAB. ISSN: 0016-5085.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 6 Dec 2007
Last Updated on STN: 6 Dec 2007

AB Background&Aims: Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. ***DMBT1*** (deleted in malignant brain tumors 1) belongs to the group of secreted scavenger receptor cysteine-rich (SRCR) proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of ***DMBT1*** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. Methods: Expression of ***DMBT1*** was determined by Taqman real time PCR, Western blot and immunohistochemistry. Promotor studies were performed using luciferase reporter gene experiments. Bacterial invasion was tested by gentamicin protection assay and siRNA approaches. Results: We demonstrate that ***DMBT1*** is a target gene for the intracellular pathogen receptor NOD2 via NF-KB activation, ***DMBT1*** is strongly upregulated in the inflamed intestinal mucosa of Crohn disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of *Salmonella enterica* and LPS-induced Toll-like receptor 4 signalling. Silencing of ***DMBT1*** in intestinal epithelial cells leads to an increased invasion of bacteria. Conclusions: ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn

disease.

L2 ANSWER 11 OF 41 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2007:343766 SCISEARCH <<LOGINID::20090423>>
GA The Genuine Article (R) Number: 142JH
TI Respiratory ***DMBT1*** levels increase during lung maturation and infection and modulate surfactant function
AU Mueller, Hanna (Reprint); End, Caroline; Weiss, Christel; Renner, Marcus; ***Mollenhauer, Jan*** ; Linderkamp, Otwin
CS Univ Heidelberg, Div Neonatol, Dept Pediat, D-6900 Heidelberg, Germany; Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-6900 Heidelberg, Germany; Univ Hosp Mannheim, Inst Med Sci, Mannheim, Germany
CYA Germany
SO EUROPEAN JOURNAL OF PEDIATRICS, (MAR 2007) Vol. 166, No. 3, pp. 279-279. ISSN: 0340-6199.
PB SPRINGER, 233 SPRING STREET, NEW YORK, NY 10013 USA.
DT Conference; Journal
LA English
REC Reference Count: 0
ED Entered STN: 5 Apr 2007
Last Updated on STN: 5 Apr 2007

L2 ANSWER 12 OF 41 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights reserved on STN
AN 2008127501 EMBASE <<LOGINID::20090423>>
TI ***DMBT1*** as an archetypal link between infection, inflammation, and cancer.
AU ***Mollenhauer, Jan, Dr. (correspondence)*** ; End, C.; Renner, M.; Lyer, S.; Poustka, A.
CS Division of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120 Heidelberg, Germany. j.mollenhauer@dkfz.de
AU ***Mollenhauer, Jan, Dr. (correspondence)*** ; Lyer, S.
CS Department of Molecular Oncology, Institute of Medical Biology, University of Southern Denmark, Odense-C, Denmark. j.mollenhauer@dkfz.de
SO Immunologia, (Oct 2007) Vol. 26, No. 4, pp. 193-209.
Refs: 141
ISSN: 0213-9626 CODEN: INMNEC
CY Spain
DT Journal; General Review; (Review)
FS 026 Immunology, Serology and Transplantation
029 Clinical and Experimental Biochemistry
004 Microbiology: Bacteriology, Mycology, Parasitology and Virology
LA English
SL English; Spanish; Castilian
ED Entered STN: 2 Apr 2008
Last Updated on STN: 2 Apr 2008
AB Epidemiological and molecular studies have pointed to links between infection, inflammation and cancer, which appear to converge at the molecular level in mechanisms associated with innate immunity. Here, the present knowledge about the secreted scavenger receptor cysteine-rich (SRCR) protein Deleted in Malignant Brain Tumors 1 (***DMBT1***), also known as glycoprotein-340 or salivary agglutinin, is summarized. ***DMBT1*** is differentially expressed in various cancer types with most of these displaying a downregulation. As a lumenally secreted protein, it exerts functions in innate pathogen defense and the regulation of inflammation. By contrast, it may trigger epithelial and stem cell

differentiation as an extracellular matrix protein. Its broad responsiveness to pathophysiological stimuli points to a general role in cell and tissue protection, which possibly is best circumscribed by linking pathogen defense and regulation of the inflammatory response to regenerative processes. Compelling similarities to the functions of SRCR proteins in primitive metazoa such as sponges and sea urchins exist, which support that its various functions may rely on an ancient and simple principle, i.e. the differential mediation of adhesion and anti-adhesion. Similar to NF- κ B signaling pathways, which are also indirectly regulated by ***DMBT1***, the present state of the art indicates that ***DMBT1*** not only could exert disease-preventing, but probably also disease-promoting functions. Taken together, ***DMBT1*** may represent a paradigm for an archetypal link between infection, inflammation, and cancer. Understanding its complex mode of action promises novel insights into the origin and the molecular basis of major human diseases.

L2 ANSWER 13 OF 41 MEDLINE on STN DUPLICATE 10
 AN 2007767353 MEDLINE <<LOGINID::20090423>>
 DN PubMed ID: 17908325
 TI Deleted in Malignant Brain Tumors 1 (***DMBT1***) is present in hyaline membranes and modulates surface tension of surfactant.
 AU Muller Hanna; End Caroline; Renner Marcus; Helmke Burkhard M; Gassler Nikolaus; Weiss Christel; Hartl Dominik; Griese Matthias; Hafner Mathias; Poustka Annemarie; ***Mollenhauer Jan*** ; Poeschl Johannes
 CS Division of Neonatology, Department of Pediatrics, University of Heidelberg, Im Neuenheimer Feld 153, 69120 Heidelberg, Germany.. Hanna.Mueller@med.uni-heidelberg.de
 SO Respiratory research, (2007) Vol. 8, pp. 69. Electronic Publication: 2007-10-01.
 Journal code: 101090633. E-ISSN: 1465-993X.
 Report No.: NLM-PMC2164949.
 CY England: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200801
 ED Entered STN: 29 Dec 2007
 Last Updated on STN: 24 Jan 2008
 Entered Medline: 23 Jan 2008
 AB BACKGROUND: Deleted in Malignant Brain Tumors 1 (***DMBT1***) is a secreted scavenger receptor cysteine-rich protein that binds various bacteria and is thought to participate in innate pulmonary host defense. We hypothesized that pulmonary ***DMBT1*** could contribute to respiratory distress syndrome in neonates by modulating surfactant function. METHODS: ***DMBT1*** expression was studied by immunohistochemistry and mRNA in situ hybridization in post-mortem lungs of preterm and full-term neonates with pulmonary hyaline membranes. The effect of human recombinant ***DMBT1*** on the function of bovine and porcine surfactant was measured by a capillary surfactometer. ***DMBT1*** -levels in tracheal aspirates of ventilated preterm and term infants were determined by ELISA. RESULTS: Pulmonary ***DMBT1*** was localized in hyaline membranes during respiratory distress syndrome. In vitro addition of human recombinant ***DMBT1*** to the surfactants increased surface tension in a dose-dependent manner. The ***DMBT1*** -mediated effect was reverted by the addition of calcium depending on the surfactant preparation. CONCLUSION: Our data showed pulmonary

DMBT1 expression in hyaline membranes during respiratory distress syndrome and demonstrated that ***DMBT1*** increases lung surface tension in vitro. This raises the possibility that ***DMBT1*** could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target molecule for therapeutic intervention in neonatal lung disease.

L2 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2007:1398177 CAPLUS <<LOGINID::20090423>>

DN 148:446649

TI Deleted in Malignant Brain Tumors 1 (***DMBT1***) is present in hyaline membranes and modulates surface tension of surfactant

AU Mueller, Hanna; End, Caroline; Renner, Marcus; Helmke, Burkhard M.; Gassler, Nikolaus; Weiss, Christel; Hartl, Dominik; Griesse, Matthias; Hafner, Mathias; Poustka, Annemarie; ***Mollenhauer, Jan*** ; Poeschl, Johannes

CS Division of Neonatology, Department of Pediatrics, University of Heidelberg, Heidelberg, 69120, Germany

SO Respiratory Research (2007), 8(1), No pp. given

CODEN: RREEBZ; ISSN: 1465-993X

URL: <http://respiratory-research.com/content/pdf/1465-9921-8-69.pdf>

PB BioMed Central Ltd.

DT Journal; (online computer file)

LA English

AB Background: Deleted in Malignant Brain Tumors 1 (***DMBT1***) is a secreted scavenger receptor cysteine-rich protein that binds various bacteria and is thought to participate in innate pulmonary host defense. The authors hypothesized that pulmonary ***DMBT1*** could contribute to respiratory distress syndrome in neonates by modulating surfactant function. Methods: ***DMBT1*** expression was studied by immunohistochem. and mRNA in situ hybridization in post-mortem lungs of preterm and full-term neonates with pulmonary hyaline membranes. The effect of human recombinant ***DMBT1*** on the function of bovine and porcine surfactant was measured by a capillary surfactometer. ***DMBT1*** -levels in tracheal aspirates of ventilated preterm and term infants were detd. by ELISA. Results: Pulmonary ***DMBT1*** was localized in hyaline membranes during respiratory distress syndrome. In vitro addn. of human recombinant ***DMBT1*** to the surfactants increased surface tension in a dose-dependent manner. The ***DMBT1*** -mediated effect was reverted by the addn. of calcium depending on the surfactant prepn. Conclusions: The data showed pulmonary ***DMBT1*** expression in hyaline membranes during respiratory distress syndrome and demonstrated that ***DMBT1*** increases lung surface tension in vitro. This raises the possibility that ***DMBT1*** could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target mol. for therapeutic intervention in neonatal lung disease.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 15 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 11

AN 2006:604365 BIOSIS <<LOGINID::20090423>>

DN PREV200600609765

TI Molecular characterization of the porcine deleted in malignant brain tumors 1 gene (***DMBT1***).

AU Haase, Bianca; Humphray, Sean J.; Lyer, Stefan; Renner, Marcus; Poustka,

Annemarie; ***Mollenhauer, Jan*** ; Leeb, Tosso [Reprint Author]
 CS Univ Bern, Vetsuisse Fac, Inst Genet, Bremgartenstr 109A, CH-3001 Bern,
 Switzerland
 Tosso.Leeb@itz.unibe.ch
 SO Gene (Amsterdam), (JUL 19 2006) Vol. 376, No. 2, pp. 184-191.
 CODEN: GENED6. ISSN: 0378-1119.
 DT Article
 LA English
 ED Entered STN: 15 Nov 2006
 Last Updated on STN: 15 Nov 2006
 AB The human gene deleted in malignant brain tumors 1 (***DMBT1***) is
 considered to play a role in tumorigenesis and pathogen defense. It
 encodes a protein with multiple scavenger receptor cysteine-rich (SRCR)
 domains, which are involved in recognition and binding of a broad spectrum
 of bacterial pathogens. The SRCR domains are encoded by highly homologous
 repetitive exons, whose number in humans may vary from 8 to 13 due to
 genetic polymorphism. Here, we characterized the porcine ***DMBT1***
 gene on the mRNA and genomic level. We assembled a 4.5 kb porcine
 DMBT1 cDNA sequence from RT-PCR amplified seminal vesicle RNA.
 The porcine ***DMBT1*** cDNA contains an open reading frame of 4050
 nt. The transcript gives rise to a putative polypeptide of 1349 amino
 acids with a calculated mass of 147.9 kDa. Compared to human
 DMBT1, it contains only four N-terminal SRCR domains. Northern
 blotting revealed transcripts of similar to 4.7 kb in size in the tissues
 analyzed. Analysis of ESTs suggested the existence of secreted and
 transmembrane variants. The porcine ***DMBT1*** gene spans about 54
 kb on chromosome 14q28-q29. In contrast to the characterized cDNA, the
 genomic BAC clone only contained 3 exons coding for N-terminal SRCR
 domains. In different mammalian ***DMBT1*** orthologs large
 interspecific differences in the number of SRCR exons and utilization of
 the transmembrane exon exist. Our data suggest that the porcine
 DMBT1 gene may share with the human ***DMBT1*** gene
 additional intraspecific variations in the number of SRCR-coding exons.
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L2 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2005:953991 CAPLUS <<LOGINID::20090423>>
 DN 143:260332
 TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups
 exposed in disease-associated agents
 IN ***Mollenhauer, Jan*** ; End, Caroline; Blaich, Stephanie; Bergmann,
 Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie;
 Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno
 PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts,
 Germany
 SO Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1727558 A1 20061206 EP 2005-732131 20050225
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
US 20080234185 A1 20080925 US 2006-590657 20060825
PRAI EP 2004-4281 A 20040225
WO 2005-EP1994 W 20050225

AB Disclosed is the use of ***DMBT1***, or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. ***DMBT1*** may also be used as a diagnostic for diagnosing the susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 17 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 12
AN 2005:324157 BIOSIS <<LOGINID::20090423>>
DN PREV200510117337
TI Generation of a vector system facilitating cloning of ***DMBT1*** variants and recombinant expression of functional full-length ***DMBT1***.

AU End, Caroline; Lyer, Stefan; Renner, Marcus; Stahl, Cordula; Ditzer, Jutta; Holloschi, Andreas; Kuhn, Hella-M.; Flammann, Heiko T.; Poustka, Annemarie; Hafner, Mathias; ***Mollenhauer, Jan*** [Reprint Author]; Kioschis, Petra

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany

j.mollenhauer@dkfz.de

SO Protein Expression and Purification, (JUN 2005) Vol. 41, No. 2, pp. 275-286.
CODEN: PEXPEJ. ISSN: 1046-5928.

DT Article

LA English

ED Entered STN: 25 Aug 2005
Last Updated on STN: 25 Aug 2005

AB Deleted in malignant brain tumours 1 (***DMBT1***) codes for a similar to 340 kDa glycoprotein with highly repetitive scavenger receptor cysteine-rich (SRCR) domains. ***DMBT1*** was implicated in cancer. defence against viral and bacterial infections, and differentiation of epithelial cells. Recombinant expression and purification of ***DMBT1*** is an essential step for systematic standardized functional research and towards the evaluation of its therapeutical potential. So far, ***DMBT1*** is obtained from natural sources such as bronchioalveolar lavage or saliva, resulting in time consuming sample collection, low yields, and protein preparations which may substantially vary due to differential processing and genetic polymorphism, all of which impedes functional research on ***DMBT1***. Cloning of ***DMBT1*** cDNAs is hampered because of the size and the 13 highly homologous SRCR exons. In this Study, we report on the setup of a vector system that facilitates cloning of ***DMBT1*** variants. We demonstrate applicability of the vector system by expression of the largest ***DMBT1*** variant in a tetracycline-inducible mammalian expression system using the Chinese hamster ovary cell line. Yields up to 30 mg rDMBT1 per litre of cell Culture supernatant could be achieved with an optimized production procedure. By harnessing the specific bacteria-binding property of ***DMBT1*** we established an affinity purification procedure which allows the isolation of more than 3 mg rDMBT1 with a Purity of about 95 %. Although the glycosylation moieties of rDMBT1 are different from ***DMBT1*** (SAG) isolated from saliva, we demonstrate that rDMBT1 is functionally active in aggregating Gram-positive and Gram-negative bacteria and binding to C1q and lactoferrin, which represent two known endogenous ***DMBT1*** ligands.
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L2 ANSWER 18 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 13

AN 2005:69186 BIOSIS <<LOGINID::20090423>>

DN PREV200500070157

TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.

AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; End, Caroline; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; Wittig, Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V. Nieuw; Poustka, Annemarie; ***Mollenhauer, Jan***

CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam, Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp. 47699-47703. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Feb 2005

Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group of metazoan proteins characterized by the presence of SRCR domains. These proteins are classified in group A and B based on the number of conserved cysteine residues in their SRCR domains, i.e. six for group A and eight for group B. The protein ***DMBT1*** (deleted in malignant brain tumors 1), which is identical to salivary agglutinin and lung gp-340, belongs to the group B SRCR proteins and is considered to be involved in tumor suppression and host defense by pathogen binding. In a previous study we used non-overlapping synthetic peptides covering the SRCR consensus sequence to identify a 16-amino acid bacteria-binding protein loop (peptide SRCRP2; QGRVEVLYRGSWGTVVC) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are critical residues in this motif. Bacteria binding by ***DMBT1pbs1*** was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was critical. In addition, the homologous consensus sequences of a number of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L2 ANSWER 19 OF 41 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN

AN 2009:102902 SCISEARCH <<LOGINID::20090423>>

GA The Genuine Article (R) Number: V80CV

TI THE PUTATIVE TUMOR SUPPRESSOR ***DMBT1*** CONFERS MUCOSAL PROTECTION IN VIVO AND INHIBITS BACTERIAL INFECTION IN VITRO

AU Renner, Marcus (Reprint); Bergmann, Gaby; Krebs, Inge; Lyer, Stefan; End, Caroline; Sina, Christian; Freidekind, Olga; Poustka, Annemarie; ***Mollenhauer, Jan***

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-69120 Heidelberg, Germany

AU End, Caroline; Kioschis, Petra; Haffner, Mathias

CS Univ Appl Sci Mannheim, Inst Mol Biol & Cell Culture Technol, D-68163 Mannheim, Germany

AU Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank

CS Univ Heidelberg, Inst Pathol, D-69120 Heidelberg, Germany

AU Sina, Christian; Rosenstiel, Philip; Schreiber, Stefan

CS Univ Hosp Schleswig Holstein, Dept Med 1, D-24105 Kiel, Germany

AU Reinhard, Claudia; Stoeger, Tobias; Schulz, Holger

CS Natl Ctr Environm & Hlth GmbH, Inst Inhalat Biol, D-85764 Neuherberg, Germany

AU Hilberg, Frank

CS Boehringer Ingelheim Austria, NCE Pharmacol, R&D Vienna, A-1121 Vienna, Austria

CYA Germany; Austria

SO ANTICANCER RESEARCH, (SEP-OCT 2004) Vol. 24, No. 5D, pp. 3610-3611. MA 422.

ISSN: 0250-7005.

PB INT INST ANTICANCER RESEARCH, EDITORIAL OFFICE 1ST KM KAPANDRITIOU-KALAMOU RD KAPANDRITI, PO BOX 22, ATHENS 19014, GREECE.

DT Conference; Journal

LA English

REC Reference Count: 0

ED Entered STN: 29 Jan 2009

Last Updated on STN: 29 Jan 2009

L2 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 14
AN 2005:388452 CAPLUS <<LOGINID::20090423>>
DN 143:383836
TI Differentially expressed genes in pancreatic ductal adenocarcinomas
identified through serial analysis of gene expression
AU Hustinx, Steven R.; Cao, Dengfeng; Maitra, Anirban; Sato, Norihiro;
Martin, Sean T.; Sudhir, D.; Iacobuzio-Donahue, Christine; Cameron, John
L.; Yeo, Charles J.; Kern, Scott E.; Goggins, Michael; ***Mollenhauer,***
*** Jan*** ; Pandey, Akhilesh; Hruban, Ralph H.
CS Department of Pathology, The Johns Hopkins Medical Institutions,
Baltimore, MD, USA
SO Cancer Biology & Therapy (2004), 3(12), 1254-1261
CODEN: CBTAAO; ISSN: 1538-4047
PB Landes Bioscience
DT Journal
LA English
AB Serial anal. of gene expression (SAGE) is a powerful tool for the
discovery of novel tumor markers. The publicly available online SAGE
libraries of normal and neoplastic tissues
(<http://www.ncbi.nlm.nih.gov/SAGE/>) have recently been expanded; in addn.,
a more complete annotation of the human genome and better biocomputational
techniques have substantially improved the assignment of differentially
expressed SAGE "tags" to human genes. These improvements have provided us
with an opportunity to re-evaluate global gene expression in pancreatic
cancer using existing SAGE libraries. SAGE libraries generated from six
pancreatic cancers were compared to SAGE libraries generated from 11
non-neoplastic tissues. Compared to normal tissue libraries, we
identified 453 SAGE tags as differentially expressed in pancreatic cancer,
including 395 that mapped to known genes and 58 "uncharacterized" tags.
Of the 395 SAGE tags assigned to known genes, 223 were overexpressed in
pancreatic cancer, and 172 were underexpressed. In order to map the 58
uncharacterized differentially expressed SAGE tags to genes, we used a
newly developed resource called TAGmapper
(<http://tagmapper.ibioinformatics.org>), to identify 16 addnl.
differentially expressed genes. The differential expression of seven
genes, involved in multiple cellular processes such as signal transduction
(MIC-1), differentiation (***DMBT1*** and Neugrin), immune response
(CD74), inflammation (CXCL2), cell cycle (CEB1) and enzymic activity
(Kallikrein 6), was confirmed by either immunohistochem. labeling of
tissue microarrays (Kallikrein 6, CD74 and ***DMBT1***) or by RT-PCR
(CEB1, Neugrin, MIC1 and CXCL2). Of note, Neugrin was one of the genes
whose previously uncharacterized SAGE tag was correctly assigned using
TAGmapper, validating the utility of this program. Novel differentially
expressed genes in a cancer type can be identified by revisiting updated
and expanded SAGE databases. TAGmapper should prove to be a powerful tool
for the discovery of novel tumor markers through assignment of
uncharacterized SAGE tags.
RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 21 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 15
AN 2004:130519 BIOSIS <<LOGINID::20090423>>
DN PREV200400116079
TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1***

during breast carcinogenesis.

AU ***Mollenhauer, Jan*** [Reprint Author]; Helmke, Burkhard; Medina, Daniel; Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan; Diedrichs, Laura; Renner, Marcus; Wittig, Rainer; Blaich, Stephanie; Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker, Floris; Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.; O'Malley, Bert; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de

SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194. print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 3 Mar 2004
Last Updated on STN: 3 Mar 2004

AB Deleted in malignant brain tumors 1 (***DMBT1***) has been proposed as a candidate tumor suppressor for brain and epithelial cancer. Initial studies suggested loss of expression rather than mutation as the predominant mode of ***DMBT1*** inactivation. However, in situ studies in lung cancer demonstrated highly sophisticated changes of ***DMBT1*** expression and localization, pointing to a chronological order of events. Here we report on the investigation of ***DMBT1*** in breast cancer in order to test whether these principles might also be attributable to other tumor types. Comprehensive mutational analyses did not uncover unambiguous inactivating ***DMBT1*** mutations in breast cancer. Expression analyses in the human and mouse mammary glands pointed to the necessity of ***DMBT1*** induction. While age-dependent and hormonal effects could be ruled out, 9 of 10 mice showed induction of ***Dmbt1*** expression after administration of the carcinogen 7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or other histopathological changes. ***DMBT1*** displayed significant up-regulation in human tumor-flanking tissues compared to in normal breast tissues ($P < 0.05$). However, the breast tumor cells displayed a switch from luminal secretion to secretion to the extracellular matrix and a significant down-regulation compared to that in matched normal flanking tissues ($P < 0.01$). We concluded that loss of expression also is the predominant mode of ***DMBT1*** inactivation in breast cancer. The dynamic behavior of ***DMBT1*** in lung carcinoma is fully reflected in breast cancer, which suggests that this behavior might be common to tumor types arising from monolayered epithelia.

L2 ANSWER 22 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 16

AN 2004:221390 BIOSIS <<LOGINID::20090423>>

DN PREV200400224388

TI Site-characteristic expression and induction of trefoil factor family 1, 2 and 3 and malignant brain tumor-1 in normal and diseased intrahepatic bile ducts relates to biliary pathophysiology.

AU Sasaki, Motoko; Tsuneyama, Koichi; Saito, Takahito; Kataoka, Hiroaki; ***Mollenhauer, Jan*** ; Poustka, Annemarie; Nakanuma, Yasuni [Reprint Author]

CS Department of Human Pathology, Kanazawa University Graduate School of Medicine, Kanazawa, 920-8640, Japan

SO Liver International, (February 2004) Vol. 24, No. 1, pp. 29-37. print.
ISSN: 1478-3223 (ISSN print).

DT Article
 LA English
 ED Entered STN: 21 Apr 2004
 Last Updated on STN: 21 Apr 2004

AB Background/Aim: Trefoil factor family (TFF)1,2,3 are involved in a homeostasis/repair process of mucosal epithelia. In this study, the significance of TFF family and deleted in the malignant brain tumor-1 (***DMBT1***), a putative receptor of TFF2, in the intrahepatic biliary tree was investigated in normal and diseased livers. Materials and Methods: Expression of TFF1,2,3 and ***DMBT1*** were examined immunohistochemically in primary biliary cirrhosis (PBC), primary sclerosing cholangitis (PSC), chronic viral hepatitis (CVH), extrahepatic biliary obstruction (EBO), and normal livers. Results: In normal livers, TFF1,3 and ***DMBT1*** were infrequently detectable in large and rarely in small bile ducts, respectively. TFF2 was not detectable in large bile ducts. In large bile duct diseases (PSC and EBO), expression of TFF3 and ***DMBT1*** were increased. In small bile duct diseases (PBC and CVH), expression of TFF2/ ***DMBT1*** was induced in moderately to severely damaged ducts irrespective of etiology. Conclusion: The intrahepatic biliary tree shows a site-characteristic expression and induction of TFF1,2,3 and ***DMBT1***. In large bile ducts, TFF1,3 were constitutively expressed and increased in pathologic bile ducts. In small bile ducts, TFF2/ ***DMBT1*** is induced in damaged ducts irrespective of etiologies. However, the cytoprotective/repair property of TFF2/ ***DMBT1*** may not be enough to prevent the following bile duct loss in PBC.

L2 ANSWER 23 OF 41 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2004:759920 CAPLUS <<LOGINID::20090423>>
 DN 141:258426
 TI ***DMBT1*** expression is down-regulated in breast cancer
 AU Braidotti, Paola; Nuciforo, Paolo G.; ***Mollenhauer, Jan*** ; Poustka, Annemarie; Pellegrini, Caterina; Moro, Alessia; Bulfamante, Gaetano; Coggi, Guido; Bosari, Silvano; Pietra, Giuseppe G.
 CS S.Paolo Hospital and IRCCS Ospedale Maggiore, University of Milano, School of Medicine, Milan, 20142, Italy
 SO BMC Cancer (2004), 4, No pp. given
 CODEN: BCMACL; ISSN: 1471-2407
 URL: <http://www.biomedcentral.com/content/pdf/1471-2407-4-46.pdf>
 PB BioMed Central Ltd.
 DT Journal; (online computer file)
 LA English

AB Background: The authors studied the expression of ***DMBT1*** (deleted in malignant brain tumor 1), a putative tumor suppressor gene, in normal, proliferative, and malignant breast epithelium and its possible relation to the cell cycle. Methods: Sections from 17 benign lesions and 55 carcinomas were immunostained with anti ***DMBT1*** antibody (***DMBTh12***) and sections from 36 samples, were double-stained also with anti MCM5, one of the 6 pre-replicative complex proteins with cell proliferation-licensing functions. ***DMBT1*** gene expression at the mRNA level was assessed by RT-PCR in frozen tissues samples from 39 patients. Results: Normal glands and hyperplastic epithelium in benign lesions displayed a luminal polarized ***DMBTh12*** immunoreactivity. Normal and hyperplastic epithelium adjacent to carcinomas showed a loss of polarization, with immunostaining present in basal and perinuclear cytoplasmic compartments. ***DMBT1*** protein expression was down-regulated in the cancerous lesions compared to the normal and/or

hyperplastic epithelium adjacent to carcinomas (3/55 pos. carcinomas vs. 33/42 pos. normal/hyperplastic epithelia; $p = 0.0001$). In 72% of cases RT-PCR confirmed immunohistochem. results. Most of normal and hyperplastic mammary cells pos. with ***DMBTh12*** were also MCM5-pos. Conclusions: The redistribution and up-regulation of ***DMBT1*** in normal and hyperplastic tissues flanking malignant tumors and its down-regulation in carcinomas suggests a potential role in breast cancer. Moreover, the concomitant expression of DMTB1 and MCM5 suggests its possible assocn. with the cell-cycle regulation.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 24 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 17

AN 2003:400542 BIOSIS <<LOGINID::20090423>>
DN PREV200300400542

TI CRP-ductin, the mouse homologue of gp-340/deleted in malignant brain
tumors 1 (***DMBT1***), binds gram-positive and gram-negative bacteria
and interacts with lung surfactant protein D.

AU Madsen, Jens; Tornoe, Ida; Nielsen, Ole; Lausen, Mette; Krebs, Inge;
Mollenhauer, Jan ; Kollender, Gaby; Poustka, Annemarie; Skjodt,
Karsten; Holmskov, Uffe [Reprint Author]

CS Immunology and Microbiology, Institute of Medical Biology, University of
Southern Denmark, DK-5000, Odense C, Denmark
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SO European Journal of Immunology, (August 2003) Vol. 33, No. 8, pp.
2327-2336. print.
ISSN: 0014-2980 (ISSN print).

DT Article
LA English
ED Entered STN: 3 Sep 2003
Last Updated on STN: 3 Sep 2003

AB CRP-ductin is a protein expressed mainly by mucosal epithelial cells in
the mouse. Sequence homologies indicate that CRP-ductin is the mouse
homologue of human gp-340, a glycoprotein that agglutinates microorganisms
and binds the lung mucosal collectin surfactant protein-D (SP-D). Here we
report that purified CRP-ductin binds human SP-D in a calcium-dependent
manner and that the binding is not inhibited by maltose. The same
properties have previously been observed for gp-340 binding of SP-D.
CRP-ductin also showed calcium-dependent binding to both gram-positive and
-negative bacteria. A polyclonal antibody raised against gp-340 reacted
specifically with CRP-ductin in Western blots. Immuno-reactivity to
CRP-ductin was found in the exocrine pancreas, in epithelial cells
throughout the gastrointestinal tract and in the parotid ducts. A panel
of RNA preparations from mouse tissues was screened for CRP-ductin and
SP-D expression by reverse transcription-PCR. The pancreas was the main
site of synthesis of CRP-ductin, but transcripts were also readily
amplified from salivary gland, the gastrointestinal tract, liver, testis,
uterus and lung. Lung was the main site of synthesis of SP-D, but
transcripts were also amplified from uterus, salivary gland, thymus,
thyroid gland, pancreas and testis. We conclude that CRP-ductin is the
mouse homologue of human gp-340 and that its capacity to bind SP-D as well
as gram-negative and gram-positive bacteria suggests a role in mucosal
immune defense.

L2 ANSWER 25 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 18

AN 2003:397953 BIOSIS <<LOGINID::20090423>>
 DN PREV200300397953
 TI Expression of deleted in malignant brain tumor-1 (***DMBT1***)
 molecule in biliary epithelium is augmented in hepatolithiasis: Possible
 participation in lithogenesis.
 AU Sasaki, Motoko; Huang, Shiu-Feng; Chen, Miin-Fu; Jan, Yi-Yin; Yeh, Ta-Sen;
 Ishikawa, Akira; ***Mollenhauer, Jan*** ; Poustka, Annemarie;
 Tsuneyama, Koichi; Nimura, Yuji; Oda, Koji; Nakanuma, Yasuni [Reprint
 Author]
 CS Department of Human Pathology, Graduate School of Medicine, Kanazawa
 University, Kanazawa, 920-8640, Japan
 SO Digestive Diseases and Sciences, (July 2003) Vol. 48, No. 7, pp.
 1234-1240. print.
 ISSN: 0163-2116 (ISSN print).
 DT Article
 LA English
 ED Entered STN: 27 Aug 2003
 Last Updated on STN: 27 Aug 2003
 AB Deleted in malignant brain tumor-1 (***DMBT1***) is a mucin-like
 molecule participating in mucosal immune defense. Given that bovine
 gallbladder mucin, which accelerates cholesterol crystallization, is a
 DMBT1 homolog, ***DMBT1*** expression was examined
 immunohistochemically in biliary epithelial cells in livers with
 hepatolithiasis (N=25), primary sclerosing cholangitis (N=7), large bile
 duct obstruction (N=12), and control normal livers (N=10). ***DMBT1***
 protein was determined in the hepatic bile samples of hepatolithiasis
 (N=12) and other hepatobiliary diseases (N=8) by immunoblot. While
 DMBT1 was faintly expressed in normal livers (20%), it was
 significantly augmented in hepatolithiasis (76%) (P<0.05). ***DMBT1***
 was mildly expressed in primary sclerosing cholangitis and large bile duct
 obstruction. ***DMBT1*** protein was detected frequently in hepatic
 bile samples of hepatolithiasis (50%) (P<0.05), but in the other bile
 samples. The percentage of cholesterol in intrahepatic calculi was
 significantly higher in the patients with ***DMBT1*** -positive bile.
 Augmented expression and secretion of ***DMBT1*** in intrahepatic
 large bile ducts in hepatolithiasis suggests its role in lithogenesis.

L2 ANSWER 26 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
 STN DUPLICATE 19

AN 2003:247369 BIOSIS <<LOGINID::20090423>>
 DN PREV200300247369
 TI Frequent downregulation of ***DMBT1*** and galectin-3 in epithelial
 skin cancer.
 AU ***Mollenhauer, Jan*** [Reprint Author]; Deichmann, Martin; Helmke,
 Burkhard; Mueller, Hanna; Kollender, Gaby; Holmskov, Uffe; Ligtenberg,
 Toon; Krebs, Inge; Wiemann, Stefan; Bantel-Schaal, Ursula; Madsen, Jens;
 Bikker, Floris; Klauck, Sabine M.; Otto, Herwart F.; Moldenhauer, Gerd;
 Poustka, Annemarie
 CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
 Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
 j.mollenhauer@dkfz.de
 SO International Journal of Cancer, (10 June 2003) Vol. 105, No. 2, pp.
 149-157. print.
 CODEN: IJCNW. ISSN: 0020-7136.
 DT Article
 LA English
 ED Entered STN: 21 May 2003

Last Updated on STN: 21 May 2003

AB ***DMBT1*** and galectin-3 are potential interacting proteins with presumably complex roles in tumorigenesis. While at present a variety of mechanisms are discussed for ***DMBT1*** and its participation in cancer, galectin-3 is commonly known to exert tumor-promoting effects. However, in vitro studies in a rodent system have suggested that ***DMBT1*** /galectin-3 interaction in the ECM triggers epithelial differentiation, which would point to tumor-suppressive properties. To improve the understanding of ***DMBT1*** /galectin-3 action in cancer, we carried out studies in skin cancer of different origins. Mutational analyses of ***DMBT1*** identified a missense mutation in 1 of 13 melanoma cell lines. It led to an exchange of an evolutionary conserved proline residue for serine and located within the second CUB domain of ***DMBT1***. Immunohistochemical analyses demonstrated absence of ***DMBT1*** /galectin-3 expression from melanocytes but induction of ***DMBT1*** expression in 1 of 8 nevi and 1 of 11 melanomas and of galectin-3 expression in 3 of 8 nevi and 4 of 8 melanomas. These data suggest that ***DMBT1*** and galectin-3 are unlikely to act as classical tumor suppressors in melanomas. ***DMBT1*** and galectin-3 appear to be secreted to the ECM by epithelial cells within the epidermis and the hair follicle. Compared to the flanking normal epidermis, skin tumors of epithelial origin frequently displayed downregulation of ***DMBT1*** (18 of 19 cases) and galectin-3 (12 of 12 cases). Thus, loss of ***DMBT1*** /galectin-3 expression may play a role in the genesis of epithelial skin cancer. This would support the view that galectin-3 can exert tumor-suppressive effects in certain scenarios, and ***DMBT1*** /galectin-3-mediated differentiation represents a candidate mechanism for this effect.

L2 ANSWER 27 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN

AN 2003:584033 BIOSIS <<LOGINID::20090423>>

DN PREV200300583256

TI The potential functional dualism of ***DMBT1*** : Epithelial differentiation and pathogen-binding.

AU ***Mollenhauer, Jan*** [Reprint Author]; Bikker, Floris; Helmke, Burkhard; Kollender, Gaby [Reprint Author]; Lyer, Stefan [Reprint Author]; Renner, Marcus [Reprint Author]; Ligtenberg, Antoon; Madsen, Jens; Holmskov, Uffe; Otto, Herwart F.; Poustka, Annemarie [Reprint Author]

CS Department for Molecular Genome Analysis, Deutsches
Krebsforschungszentrum, Heidelberg, Germany

SO International Journal of Molecular Medicine, (2003) Vol. 12, No. Supplement 1, pp. S9. print.

Meeting Info.: 8th World Congress on Advances in Oncology and 6th International Symposium on Molecular Medicine. Crete, Greece. October 16-18, 2003.

ISSN: 1107-3756 (ISSN print).

DT Conference; (Meeting)

Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 10 Dec 2003

Last Updated on STN: 10 Dec 2003

L2 ANSWER 28 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 20

AN 2002:535766 BIOSIS <<LOGINID::20090423>>

DN PREV200200535766

TI Identification of the bacteria-binding peptide domain on salivary
 agglutinin (gp-340/ ***DMBT1***), a member of the scavenger receptor
 cysteine-rich superfamily.
 AU Bikker, Floris J. [Reprint author]; Ligtenberg, Antoon J. M.; Nazmi,
 Kamran; Veerman, Enno C. I.; van't Hof, Wim; Bolscher, Jan G. M.; Poustka,
 Annemarie; Amerongen, Arie V. Nieuw; ***Mollenhauer, Jan***
 CS Van der Boechorststraat 7, 1081 BT, Amsterdam, Netherlands
 fj.bikker.obc.acta@med.vu.nl
 SO Journal of Biological Chemistry, (August 30, 2002) Vol. 277, No. 35, pp.
 32109-32115. print.
 CODEN: JBCHA3. ISSN: 0021-9258.
 DT Article
 LA English
 ED Entered STN: 16 Oct 2002
 Last Updated on STN: 16 Oct 2002
 AB Salivary agglutinin is encoded by ***DMBT1*** and identical to gp-340,
 a member of the scavenger receptor cysteine-rich (SRCR) superfamily.
 Salivary agglutinin/DAMBT1 is known for its Streptococcus mutans
 agglutinating properties. This 300-400 kDa glycoprotein is composed of
 conserved peptide motifs: 14 SRCR domains that are separated by
 SRCR-interspersed domains (SIDs), 2 CUB (Clr/Cls Uegf Bmp1) domains, and a
 zona pellucida domain. We have searched for the peptide domains of
 agglutinin/ ***DMBT1*** responsible for bacteria binding. Digestion
 with endoproteinase Lys-C resulted in a protein fragment containing
 exclusively SRCR and SID domains that binds to S. mutans. To define more
 closely the S. mutans-binding domain, consensus-based peptides of the SRCR
 domains and SIDs were designed and synthesized. Only one of the SRCR
 peptides, designated SRCRP2, and none of the SID peptides bound to S.
 mutans. Strikingly, this peptide was also able to induce agglutination of
 S. mutans and a number of other bacteria. The repeated presence of this
 peptide in the native molecule endows agglutinin/ ***DMBT1*** with a
 general bacterial binding feature with a multivalent character. Moreover,
 our studies demonstrate for the first time that the polymorphic SRCR
 domains of salivary agglutinin/ ***DMBT1*** mediate ligand
 interactions.

L2 ANSWER 29 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
 STN DUPLICATE 21
 AN 2002:497292 BIOSIS <<LOGINID::20090423>>
 DN PREV200200497292
 TI Rare mutations of the ***DMBT1*** gene in human astrocytic gliomas.
 AU Mueller, Wolf; ***Mollenhauer, Jan*** ; Stockhammer, Florian; Poustka,
 Annemarie; von Deimling, Andreas [Reprint author]
 CS Institute for Neuropathology, Charite Humboldt University, D-13353,
 Berlin, Germany
 andreas.von_deimling@charite.de
 SO Oncogene, (29 August, 2002) Vol. 21, No. 38, pp. 5956-5959. print.
 CODEN: ONCNES. ISSN: 0950-9232.
 DT Article
 LA English
 ED Entered STN: 25 Sep 2002
 Last Updated on STN: 25 Sep 2002
 AB The Deleted in Malignant Brain Tumors 1 gene (***DMBT1***) has been
 proposed as a tumor suppressor gene candidate in human brain tumors, based
 on the observation of homozygous deletions affecting the ***DMBT1***
 region or part of the gene. In order to support this hypothesis, we
 performed a mutational analysis of the entire coding region of

DMBT1 , employing SSCP analysis and direct DNA sequencing in a series of 79 astrocytic gliomas. Five somatic mutations were detected. Two mutations, one of which resulted in an amino acid exchange, occurred in glioblastomas. One pilocytic astrocytoma carried two missense mutations and another pilocytic astrocytoma contained a somatic mutation, not affecting the presumed protein. In addition, 21 of the 27 single nucleotide polymorphisms identified in this study have not been recognized previously. The data indicate, that small mutations are not a frequent finding in gliomas.

L2 ANSWER 30 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 22
AN 2003:427580 BIOSIS <<LOGINID::20090423>>
DN PREV200300427580
TI An integrative model on the role of ***DMBT1*** in epithelial cancer.
AU ***Mollenhauer, Jan*** [Reprint Author]; Helmke, Burkhard; Mueller,
Hanna; Kollender, Gaby; Krebs, Inge; Wiemann, Stefan; Holmskov, Uffe;
Madsen, Jens; Otto, Herwart F.; Poustka, Annemarie
CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de
SO Cancer Detection and Prevention, (2002) Vol. 26, No. 4, pp. 266-274.
print.
CODEN: CDPD4. ISSN: 0361-090X.
DT Article
LA English
ED Entered STN: 17 Sep 2003
Last Updated on STN: 17 Sep 2003
AB The gene, deleted in malignant brain tumors 1 (***DMBT1***), has been
proposed to play a role in brain and epithelial cancer, but shows unusual
features for a classical tumor suppressor gene. We have proposed that its
presumptive dual function in protection and differentiation is of
importance to understand its role in cancer. To gain insights into its
role in tumorigenesis, we conducted a comprehensive study on ***DMBT1***
mutations, expression and location. Twenty-one out of 44 tumors showed
variable numbers of tandem repeats (VNTRs) due to genetic polymorphism of
DMBT1 , whereas 11 out of 44 tumors displayed presumable
mutations.

However, none of the alterations would be predicted to lead to a complete inactivation of the gene. ***DMBT1*** is mucin-like and shows tissue-specific expression and secretion, pointing to a function in the protection of monolayered epithelia and to an additional function in the differentiation of multilayered epithelia. The expression patterns in carcinomas arising from the respective structures support this view. Accepting this functional dualism gives rise to an initial model on the role of ***DMBT1*** in epithelial cancer.

L2 ANSWER 31 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 23
AN 2002:529538 BIOSIS <<LOGINID::20090423>>
DN PREV200200529538
TI The SRCR/SID region of ***DMBT1*** defines a complex multi-allele
system representing the major basis for its variability in cancer.
AU ***Mollenhauer, Jan*** [Reprint author]; Mueller, Hanna; Kollender,
Gaby; Lyer, Stefan; Diedrichs, Laura; Helmke, Burkhard; Holmskov, Uffe;
Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Madsen, Jens; Bikker,
Floris; Schmitt, Liane; Wiemann, Stefan; Scheurlen, Wolfram; Otto, Herwart

F.; von Deimling, Andreas; Poustka, Annemarie
CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de
SO Genes Chromosomes and Cancer, (November, 2002) Vol. 35, No. 3, pp.
242-255. print.
CODEN: GCCAES. ISSN: 1045-2257.
DT Article
LA English
ED Entered STN: 16 Oct 2002
Last Updated on STN: 16 Oct 2002
AB Deleted in malignant brain tumors 1 (***DMBT1***) at 10q25.3-q26.1 has
been proposed as a candidate tumor-suppressor gene for brain and
epithelial cancer. ***DMBT1*** encodes a multifunctional mucin-like
protein presumably involved in epithelial differentiation and protection.
The gene consists of highly homologous and repeating exon and intron
sequences. This specifically applies to the region coding for the
repetitive scavenger receptor cysteine-rich (SRCR) domains and
SRCR-interspersed domains (SIDs) that constitutes the major part of the
gene. This particular structure may previously have interfered with the
delineation of ***DMBT1*** alterations in cancer. Uncovering these,
however, is of mechanistic importance. By a combined approach, we
conducted a detailed mutational analysis, starting from a panel of 51
tumors, including 46 tumor cell lines and five primary tumors.
Alterations in the repetitive region were present in 22/31 (71%) tumors
that were investigated in detail. Six tumors showed presumably de novo
mutations, among these three with point mutations in combination with a
loss of heterozygosity. However, none of the alterations unambiguously
would be predicted to lead to an inactivation of ***DMBT1***. We
define seven distinct ***DMBT1*** alleles based on variable numbers of
tandem repeats (VNTRs). At least 11 tumors exclusively harbored these
VNTRs. The data suggest that the SRCR/SID region defines a complex
multi-allele system that has escaped previous analyses and that represents
the major basis for the variability of ***DMBT1*** in cancer.
DMBT1 thus compares to mucins rather than to conventional tumor
suppressors.

L2 ANSWER 32 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 24
AN 2002:471853 BIOSIS <<LOGINID::20090423>>
DN PREV200200471853
TI Sequential changes of the ***DMBT1*** expression and location in
normal lung tissue and lung carcinomas.
AU ***Mollenhauer, Jan*** [Reprint author]; Helmke, Burkhard; Mueller,
Hanna; Kollender, Gaby; Lyer, Stefan; Diedrichs, Laura; Holmskov, Uffe;
Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Wiemann, Stefan; Madsen,
Jens; Bikker, Floris; Schmitt, Liane; Otto, Herwart F.; Poustka, Annemarie
CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de
SO Genes Chromosomes and Cancer, (October, 2002) Vol. 35, No. 2, pp. 164-169.
print.
CODEN: GCCAES. ISSN: 1045-2257.
DT Article
LA English
ED Entered STN: 11 Sep 2002
Last Updated on STN: 11 Sep 2002

AB Deleted in Malignant Brain Tumors 1 (***DMBT1***) at chromosome region 10q25.3-q26.1 has been proposed as a candidate tumor-suppressor gene for brain, digestive tract, and lung cancer. Recent studies on its expression in lung cancer have led to divergent results and have raised a controversial discussion. Moreover, ***DMBT1*** has been implicated with epithelial protection in the respiratory tract. We thus wondered how a loss of its expression could be related to carcinogenesis in the lung. To address these issues, we investigated the ***DMBT1*** expression and location in the normal lung and lung cancer. By reverse-transcription PCR, a down-regulation of the ***DMBT1*** expression in lung cancer cell lines is commonly detected. Immunohistochemical studies in situ demonstrate that there are also low steady-state levels of ***DMBT1*** in the normal respiratory epithelium. However, an up-regulation takes place in the tumor-flanking epithelium and upon respiratory inflammation. Lung carcinomas show increased ***DMBT1*** expression compared to that of undiseased lung tissue, but decreased ***DMBT1*** levels compared to that of tumor-flanking and inflammatory tissue. A switch from a luminal secretion to a secretion to the extracellular matrix takes place during lung carcinogenesis. Our data may resolve the controversial discussion on its expression in lung carcinomas. We hypothesize that the changes of the ***DMBT1*** expression and location do reflect a time course that may point to possible mechanisms for its role in epithelial cancer.

L2 ANSWER 33 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2002:584258 BIOSIS <<LOGINID::20090423>>
DN PREV200200584258
TI ***DMBT1*** and breast cancer.
AU ***Mollenhauer, Jan*** [Reprint author]; Helmke, Burkhard; Kollender, Gaby [Reprint author]; Mueller, Hanna [Reprint author]; Wiemann, Stefan [Reprint author]; Holmskov, Uffe; Madsen, Jens; Otto, Herwart F.; Medina, Daniel; O'Malley, Bert W.; Poustka, Annemarie [Reprint author]
CS Department for Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, Germany
SO International Journal of Molecular Medicine, (2002) Vol. 10, No. Supplement 1, pp. S82. print.
Meeting Info.: 7th World Congress on Advances in Oncology and the 5th International Symposium on Molecular Medicine. Hersonissos, Crete, Greece. October 10-12, 2002.
ISSN: 1107-3756.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 13 Nov 2002
Last Updated on STN: 13 Nov 2002

L2 ANSWER 34 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 25
AN 2002:69136 BIOSIS <<LOGINID::20090423>>
DN PREV200200069136
TI Deleted in malignant brain tumors 1 is a versatile mucin-like molecule likely to play a differential role in digestive tract cancer.
AU ***Mollenhauer, Jan*** ; Herbertz, Stephan; Helmke, Burkhard; Kollender, Gaby; Krebs, Inge; Madsen, Jens; Holmskov, Uffe; Sorger, Karin; Schmitt, Liane; Wiemann, Stefan; Otto, Herwart F.; Groene, Hermann-Josef; Poustka, Annemarie [Reprint author]

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany

SO Cancer Research, (December 15, 2001) Vol. 61, No. 24, pp. 8880-8886.
print.
CODEN: CNREA8. ISSN: 0008-5472.

DT Article

LA English

ED Entered STN: 16 Jan 2002
Last Updated on STN: 25 Feb 2002

AB Deleted in Malignant Brain Tumors 1 (***DMBT1***) has been proposed as
a candidate tumor suppressor gene for brain, lung, and digestive tract
cancer. In particular, alterations of the gene and/or a loss of
expression have been observed in gastric, colorectal, and esophageal
carcinomas. Initial evidence has accumulated that ***DMBT1*** may
represent a multifunctional protein. Because the consequences of a loss
of ***DMBT1*** function may be different depending on its original
function in a particular tissue, we wondered if it is appropriate to
assume a uniform role for ***DMBT1*** in digestive tract carcinomas.
We hypothesized that a systematic characterization of ***DMBT1*** in
the human alimentary tract would be useful to improve the understanding of
this molecule and its role in digestive tract carcinomas. Our data
indicate that the expression pattern and subcellular distribution of
DMBT1 in the human alimentary tract is reminiscent of epithelial
mucins. Bovine gallbladder mucin is identified as the ***DMBT1***
homologue in cattle. An elaborate alternative splicing may generate a
great variety of ***DMBT1*** isoforms. Monolayered epithelia display
transcripts of 6 kb and larger, and generally show a luminal secretion of
DMBT1 indicating a role in mucosal protection. The esophagus is
the only tissue displaying an additional smaller transcript of approx 5 kb.
The stratified squamous epithelium of the esophagus is the only epithelium
showing a constitutive targeting of ***DMBT1*** to the extracellular
matrix (ECM) suggestive of a role in epithelial differentiation. Squamous
cell carcinomas of the esophagus show an early loss of ***DMBT1***
expression. In contrast, adenocarcinomas of the esophagus commonly
maintain higher ***DMBT1*** expression levels. However, presumably
subsequent to a transition from the luminal secretion to a targeting to
the ECM, a loss of ***DMBT1*** expression also takes place in
adenocarcinomas. Regarding ***DMBT1*** as a mucin-like molecule is a
new perspective that is instructive for its functions and its role in
cancer. We conclude that ***DMBT1*** is likely to play a differential
role in the genesis of digestive tract carcinomas. However, although
DMBT1 originally has divergent functions in monolayered and
multilayered epithelia, carcinogenesis possibly converges in a common
pathway that requires an inactivation of its functions in the ECM.

L2 ANSWER 35 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN

AN 2001:578133 BIOSIS <<LOGINID::20090423>>

DN PREV200100578133

TI Mutational analysis and characterization of ***DMBT1*** : A versatile
molecular fly-paper.

AU ***Mollenhauer, Jan*** [Reprint author]; Helmke, Burkhard; Mueller,
Hanna [Reprint author]; Kollender, Gaby [Reprint author]; Herbertz, Stefan
[Reprint author]; Krebs, Inge [Reprint author]; Wiemann, Stefan [Reprint
author]; Holmskov, Uffe; Madsen, Jens; Otto, Herwart F.; Poustka,
Annemarie [Reprint author]

CS Department for Molecular Genome Analysis, Deutsches

Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany

SO International Journal of Molecular Medicine, (2001) Vol. 8, No. Supplement 1, pp. S9. print.
Meeting Info.: 6th World Congress on Advances in Oncology, and the 4th International Symposium on Molecular Medicine. Hersonissos, Crete, Greece. October 18-20, 2001.
ISSN: 1107-3756.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 12 Dec 2001
Last Updated on STN: 25 Feb 2002

L2 ANSWER 36 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 26

AN 2000:188628 BIOSIS <<LOGINID::20090423>>
DN PREV200000188628

TI ***DMBT1*** encodes a protein involved in the immune defense and in epithelial differentiation and is highly unstable in cancer.

AU ***Mollenhauer, Jan*** [Reprint author]; Herbertz, Stephan; Holmskov, Uffe; Tolnay, Markus; Krebs, Inge; Merlo, Adrian; Schroder, Henrik Daa; Maier, Daniel; Breitling, Frank; Wiemann, Stefan; Groene, Hermann-Josef; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, Kst. H0600, 69120, Heidelberg, Germany

SO Cancer Research, (March 15, 2000) Vol. 60, No. 6, pp. 1704-1710. print.
CODEN: CNREA8. ISSN: 0008-5472.

DT Article

LA English

ED Entered STN: 11 May 2000
Last Updated on STN: 4 Jan 2002

AB The gene deleted in malignant brain tumors 1 (***DMBT1***) has been proposed as a candidate tumor suppressor for brain, gastrointestinal, and lung cancer. It codes for a protein of unknown function belonging to the superfamily of scavenger receptor cysteine-rich proteins. We aimed at getting insights into the functions of ***DMBT1*** by expression analyses and studies with a monoclonal antibody against the protein. The ***DMBT1*** mRNA is expressed throughout the immune system, and Western blot studies demonstrated that isoforms of ***DMBT1*** are identical to the collectin-binding protein gp-340, a glycoprotein that is involved in the respiratory immune defense. Immunohistochemical analyses revealed that ***DMBT1*** is produced by both tumor-associated macrophages and tumor cells and that it is deregulated in glioblastoma multiforme in comparison to normal brain tissue. Our data further suggest that the proteins CRP-ductin and hensin, both of which have been implicated in epithelial differentiation, are the ***DMBT1*** orthologs in mice and rabbits, respectively. These findings and the spatial and temporal distribution of ***DMBT1*** in fetal and adult epithelia suggest that ***DMBT1*** further plays a role in epithelial development. Rearrangements of ***DMBT1*** were found in 16 of 18 tumor cell lines, and hemizygous deletions were observed in a subset of normal individuals, indicating that the alterations in tumors may be a result of both pre-existing deletions uncovered by a loss of heterozygosity and secondary changes acquired during tumorigenesis. Thus, ***DMBT1*** is a gene that is highly unstable in cancer and encodes for a protein with at least two different functions, one in the immune defense and a second one in

epithelial differentiation.

L2 ANSWER 37 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 27
AN 2000:368358 BIOSIS <<LOGINID::20090423>>
DN PREV200000368358
TI Comprehensive allelotype and genetic analysis of 466 human nervous system
tumors.
AU von Deimling, Andreas [Reprint author]; Fimmers, Rolf; Schmidt, Matthias
C.; Bender, Bernhard; Fassbender, Frank; Nagel, Judith; Jahnke, Rolf;
Kaskel, Peter; Duerr, Eva-Maria; Koopmann, Jens; Maintz, David; Steinbeck,
Stephanie; Wick, Wolfgang; Platten, Michael; Mueller, Daniel J.; Przkora,
Rene; Waha, Andreas; Bluemcke, Britta; Wellenreuther, Ruth;
Meyer-Puttlitz, Birgit; Schmidt, Ortrud; ***Mollenhauer, Jan*** ;
Poustka, Annemarie; Stangl, Armin P.; Lenartz, Doris; von Ammon, Klaus;
Henson, John W.; Schramm, Johannes; Louis, David N.; Wiestler, Otmar D.
CS Institut fuer Neuropathologie, Charite Humboldt University, Augustenburger
Platz 1, Campus Virchow Klinikum, D-13353, Berlin, Germany
SO Journal of Neuropathology and Experimental Neurology, (June, 2000) Vol.
59, No. 6, pp. 544-558. print.
CODEN: JNENAD. ISSN: 0022-3069.
DT Article
LA English
ED Entered STN: 23 Aug 2000
Last Updated on STN: 8 Jan 2002
AB Brain tumors pose a particular challenge to molecular oncology. Many
different tumor entities develop in the nervous system and some of them
appear to follow distinct pathogenic routes. Molecular genetic
alterations have increasingly been reported in nervous system neoplasms.
However, a considerable number of affected genes remain to be identified.
We present here a comprehensive allelotype analysis of 466 nervous system
tumors based on loss of heterozygosity (LOH) studies with 129
microsatellite markers that span the genome. Specific alterations of the
EGFR, CDK4, CDKN2A, TP53, ***DMBT1*** , NF2, and PTEN genes were
analyzed in addition. Our data point to several novel genetic loci
associated with brain tumor development, demonstrate relationships between
molecular changes and histopathological features, and further expand the
concept of molecular tumor variants in neuro-oncology. This catalogue may
provide a valuable framework for future studies to delineate molecular
pathways in many types of human central nervous system tumors.

L2 ANSWER 38 OF 41 CAPLUS COPYRIGHT 2009 ACS on STN
AN 1999:811566 CAPLUS <<LOGINID::20090423>>
DN 132:45802
TI Nonhuman mammal with inactivated or inactivatable SCUZ protein gene
IN ***Mollenhauer, Jan*** ; Poustka, Annemarie; Krebs, Inge
PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts,
Germany
SO Ger., 14 pp.
CODEN: GWXXAW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19829660	C1	19991223	DE 1998-19829660	19980702
	WO 2000001814	A2	20000113	WO 1999-DE2055	19990630

WO 2000001814 A3 20000420

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9958478 A 20000124 AU 1999-58478 19990630

PRAI DE 1998-19829660 A 19980702

WO 1999-DE2055 W 19990630

AB The title transgenic mammal is disclosed. SCUZ proteins contain an SRCR (scavenger receptor cysteine-rich) domain and protein interaction domains CUB and ZP. The gene may be the ***DMBT1*** gene, or may encode CRP ductin or ebnerin. These transgenic mammals may be used to screen for carcinoma inhibitors. Thus, a transgenic mouse contg. a Cre recombinase-inactivatable CRP ductin gene was created.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 39 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 28

AN 1999:468769 BIOSIS <<LOGINID::20090423>>

DN PREV199900468769

TI Cloning of gp-340, a putative opsonin receptor for lung surfactant protein D.

AU Holmskov, Uffe [Reprint author]; ***Mollenhauer, Jan*** ; Madsen, Jens; Vitved, Lars; Gronlund, Jorn; Tornoe, Ida; Kliem, Anette; Reid, Kenneth B. M.; Poustka, Annemarie; Skjodt, Karsten

CS Department of Immunology and Microbiology, Institute of Medical Biology, University of Southern Denmark, Winslowparken 19.1, DK-5000, Odense, Denmark

SO Proceedings of the National Academy of Sciences of the United States of America, (Sept. 14, 1999) Vol. 96, No. 19, pp. 10794-10799. print. CODEN: PNASA6. ISSN: 0027-8424.

DT Article

LA English

ED Entered STN: 9 Nov 1999

Last Updated on STN: 9 Nov 1999

AB Surfactant protein D (SP-D) is an oligomeric C type lectin that promotes phagocytosis by binding to microbial surface carbohydrates. A 340-kDa glycoprotein (gp-340) has been shown to bind SP-D in the presence of calcium but does so independently of carbohydrate recognition. This protein exists both in a soluble form and in association with the membranes of alveolar macrophages. The primary structure of gp-340 has been established by molecular cloning, which yielded a 7,686-bp cDNA sequence encoding a polypeptide chain of 2,413 amino acids. The domain organization features 13 scavenger receptor cysteine-rich (SRCR) domains, each separated by an SRCR-interspersed domain, except for SRCRs 4 and 5, which are contiguous. The 13 SRCR domains are followed by two C1r/C1s Uegf Bmp1 domains separated by a 14th SRCR domain and a zona pellucida domain. gp-340 seems to be an alternative spliced form of ***DMBT1***. Reverse transcription-PCR analysis showed that the main sites of synthesis of gp-340 are lung, trachea, salivary gland, small intestine, and stomach. Immunohistochemistry revealed strong staining for gp-340 in alveolar and other tissue macrophages. Immunostaining of the macrophage membrane was

either uniform or focal in a way that suggested capping, whereas other macrophages showed strong intracellular staining within the phagosome/phagolysosome compartments. In some macrophages, SP-D and gp-340 were located in the same cellular compartment. Immunoreactive gp-340 was also found in epithelial cells of the small intestine and in the ducts of salivary glands. The distribution of gp-340 in macrophages is compatible with a role as an opsonin receptor for SP-D.

L2 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2009 ACS on STN

AN 1998:493676 CAPLUS <<LOGINID::20090423>>

DN 129:120695

OREF 129:24702a

TI A protein containing a scavenger receptor cytosine-rich domain of human fetal lung and a cDNA encoding it

IN ***Mollenhauer, Jan*** ; Poustka, Annemarie

PA Deutsches Krebsforschungszentrum Stiftung des Offentlichen Rechts, Germany; Mollenhauer, Jan; Poustka, Annemarie

SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9830687	A2	19980716	WO 1998-DE96	19980109
	WO 9830687	A3	19980911		
	W: JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19730997	C1	19980924	DE 1997-19730997	19970718
	EP 1015583	A2	20000705	EP 1998-905246	19980109
	EP 1015583	B1	20051019		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
	JP 2001509667	T	20010724	JP 1998-530469	19980109
	AT 307201	T	20051115	AT 1998-905246	19980109
	US 6346606	B1	20020212	US 1999-341587	19990831
PRAI	DE 1997-19700519	A	19970109		
	DE 1997-19730997	A	19970718		
	WO 1998-DE96	W	19980109		

AB A protein contg. a scavenger receptor cytosine-rich domain is identified in human fetal lung and a cDNA encoding it is cloned. The cDNA was cloned from a human fetal lung library by PCR. A partial cDNA was obtained by PCR using primers recognizing SRCR and CUB1 domain coding sequences. The gene shows deletions in brain tumors.

L2 ANSWER 41 OF 41 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 29

AN 1997:439001 BIOSIS <<LOGINID::20090423>>

DN PREV199799738204

TI ***DMBT1*** , a new member of the SRCR superfamily, on chromosome 10q25.3-26.1 is deleted in malignant brain tumours.

AU ***Mollenhauer, Jan*** ; Wiemann, Stefan; Scheurlen, Wolfram; Korn, Bernhard; Hayashi, Yutaka; Wilgenbug, Klaus K.; Von Deimling, Andreas; Poustka, Annemarie [Reprint author]

CS Div. Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, D-69120 Heidelberg, Germany

SO Nature Genetics, (1997) Vol. 17, No. 1, pp. 32-39.
ISSN: 1061-4036.

DT Article
 LA English
 ED Entered STN: 8 Oct 1997
 Last Updated on STN: 8 Oct 1997
 AB Loss of sequences from human chromosome 10q has been associated with the progression of human cancer. Medulloblastoma and glioblastoma multiforme are the most common malignant brain tumours in children and adults, respectively. In glioblastoma multiforme, the most aggressive form, 80% of the tumours show loss of 10q. We have used representational difference analysis to identify a homozygous deletion at 10q25.3-26.1 in a medulloblastoma cell line and have cloned a novel gene, *****DMBT1*****, spanning this deletion. *****DMBT1***** shows homology to the scavenger receptor cysteine-rich (SRCR) superfamily. Intragenic homozygous deletions have been detected in 2/20 medulloblastomas and in 9/39 glioblastomas multiformes. Lack of *****DMBT1***** expression has been demonstrated in 4/5 brain-tumour cell lines. We suggest that *****DMBT1***** is a putative tumour-suppressor gene implicated in the carcinogenesis of medulloblastoma and glioblastoma multiforme.

=> e end caroline/au

E1 2 END C M/AU
 E2 3 END C S/AU
 E3 29 --> END CAROLINE/AU
 E4 2 END CHERYL S/AU
 E5 1 END CHRIS/AU
 E6 4 END CHRISTOPHER/AU
 E7 104 END D/AU
 E8 1 END D E/AU
 E9 89 END D W/AU
 E10 9 END DAVE/AU
 E11 6 END DAVE W/AU
 E12 19 END DAVID/AU

=> s e1-e3 and Dmbt?

L3 29 ("END C M"/AU OR "END C S"/AU OR "END CAROLINE"/AU) AND DMBT?

=> dup rem l3

PROCESSING COMPLETED FOR L3

L4 11 DUP REM L3 (18 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 11 ANSWERS - CONTINUE? Y/(N):y

L4 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

AN 2009:402136 CAPLUS <<LOGINID::20090423>>

DN 150:327861

TI *****DMBT1***** functions as pattern-recognition molecule for poly-sulfated and poly-phosphorylated ligands

AU *****End, Caroline*****; Bikker, Floris; Renner, Marcus; Bergmann, Gaby; Lyer, Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner, Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.; Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias; Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan
 CS Division of Molecular Genome Analysis, German Cancer Research Center, Heidelberg, Germany

SO European Journal of Immunology (2009), 39(3), 833-842
 CODEN: EJIMAF; ISSN: 0014-2980

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

AB Deleted in malignant brain tumors 1 (*****DMBT1*****) is a secreted glycoprotein displaying a broad bacterial-binding spectrum. Recent functional and genetic studies linked *****DMBT1***** to the suppression of LPS-induced TLR4-mediated NF- κ B activation and to the pathogenesis of Crohn's disease. Here, the authors aimed at unraveling the mol. basis of its function in mucosal protection and of its broad pathogen-binding specificity. The authors report that *****DMBT1***** directly interacts with dextran sulfate sodium (DSS) and carrageenan, a structurally similar sulfated polysaccharide, which is used as a texturizer and thickener in human dietary products. However, binding of *****DMBT1***** does not reduce the cytotoxic effects of these agents to intestinal/epithelial cells in vitro. DSS and carrageenan compete for *****DMBT1*****-mediated bacterial aggregation via interaction with its bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in *****Dmbt1***** $-/-$ and *****Dmbt1***** $+/+$ mice utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that *****DMBT1***** functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L4 ANSWER 2 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2

AN 2007:440147 BIOSIS <<LOGINID::20090423>>

DN PREV200700436905

TI Regulation of *****DMBT1***** via NOD2 and TLR4 in intestinal epithelial cells modulates bacterial recognition and invasion.

AU Rosenstiel, Philip; Sina, Christian; *****End, Caroline***** ; Renner, Marcus; Lyer, Stefan; Till, Andreas; Hellmig, Stephan; Nikolaus, Susanna; Foelsch, Ulrich R.; Helmke, Burkhard; Autschbach, Frank; Schirmacher, Peter; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan; Schreiber, Stefan [Reprint Author]

CS Univ Hosp Schleswig Holstein, Inst Clin Mol Biol, Campus Kiel, Schittenhelmstrache 12, Kiel, Germany
 s.schreiber@mucosa.de

SO Journal of Immunology, (JUN 15 2007) Vol. 178, No. 12, pp. 8203-8211.
 CODEN: JOIMA3. ISSN: 0022-1767.

DT Article

LA English

ED Entered STN: 15 Aug 2007
 Last Updated on STN: 15 Aug 2007

AB Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. Deleted in malignant brain tumors 1 (*****DMBT1*****) belongs to the group of secreted scavenger receptor cysteine-rich proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of *****DMBT1***** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. We report that intestinal epithelial cells up-regulate *****DMBT1***** upon proinflammatory stimuli

(e.g., TNF-alpha, LPS). We demonstrate that ***DMBT1*** is a target gene for the intracellular pathogen receptor NOD2 via NF-kappa B activation. ***DMBT1*** is strongly up-regulated in the inflamed intestinal mucosa of Crohn's disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of Salmonella enterica and LPS- and muramyl dipeptide-induced NF-kappa B activation and cytokine secretion in vitro. Thus, ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn's disease.

L4 ANSWER 3 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 3

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; ***End, Caroline*** ; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008

Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1(***DMBT1***) is a secreted scavenger receptor cysteine-rich protein

with

predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We studied ***DMBT1*** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within ***DMBT1*** were analyzed in an Italian IBD case-control sample. ***Dmbt1*** (-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced: number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L4 ANSWER 4 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 4

AN 2007:601740 BIOSIS <<LOGINID::20090423>>

DN PREV200700605050

TI ***Dmbt1*** is a target gene of NOD2/CARD15 and protects intestinal epithelial cells from bacterial invasion.

AU Rosenstiel, Philip; Sina, Christian; Hellmig, Stephan; Nikolaus, Susanna; ***End, Caroline*** ; Renner, Markus; Lyer, Stephan; Helmke, Burkhard; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan; Schreiber, Stefan SO Gastroenterology, (APR 2007) Vol. 132, No. 4, Suppl. 2, pp. A550.

Meeting Info.: Digestive Disease Week Meeting/108th Annual Meeting of the American-Gastroenterological-Association. Washington, DC, USA. May 19 -24, 2007. Amer Gastroenterol Assoc; Amer Assoc Study Liver Dis; Amer Soc Gastrointestinal Endoscopy; Soc Surg Alimentary Tract. CODEN: GASTAB. ISSN: 0016-5085.

DT Conference; (Meeting)

Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 6 Dec 2007

Last Updated on STN: 6 Dec 2007

AB Background&Aims: Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. ***DMBT1*** (deleted in malignant brain tumors 1) belongs to the group of secreted scavenger receptor cysteine-rich (SRCR) proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of ***DMBT1*** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. Methods: Expression of ***DMBT1*** was determined by Taqman real time PCR, Western blot and immunohistochemistry. Promotor studies were performed using luciferase reporter gene experiments. Bacterial invasion was tested by gentamicin protection assay and siRNA approaches. Results: We demonstrate that ***DMBT1*** is a target gene for the intracellular pathogen receptor NOD2 via NF-KB activation, ***DMBT1*** is strongly upregulated in the inflamed intestinal mucosa of Crohn disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of Salmonella enterica and LPS-induced Toll-like receptor 4 signalling. Silencing of ***DMBT1*** in intestinal epithelial cells leads to an increased invasion of bacteria. Conclusions: ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn disease.

L4 ANSWER 5 OF 11 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN

AN 2007:343766 SCISEARCH <<LOGINID::20090423>>

GA The Genuine Article (R) Number: 142JH

TI Respiratory ***DMBT1*** levels increase during lung maturation and infection and modulate surfactant function

AU Mueller, Hanna (Reprint); ***End, Caroline*** ; Weiss, Christel;
 Renner, Marcus; Mollenhauer, Jan; Linderkamp, Otwin
 CS Univ Heidelberg, Div Neonatol, Dept Pediat, D-6900 Heidelberg, Germany;
 Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-6900 Heidelberg,
 Germany; Univ Hosp Mannheim, Inst Med Sci, Mannheim, Germany
 CYA Germany
 SO EUROPEAN JOURNAL OF PEDIATRICS, (MAR 2007) Vol. 166, No. 3, pp. 279-279.
 ISSN: 0340-6199.
 PB SPRINGER, 233 SPRING STREET, NEW YORK, NY 10013 USA.
 DT Conference; Journal
 LA English
 REC Reference Count: 0
 ED Entered STN: 5 Apr 2007
 Last Updated on STN: 5 Apr 2007

L4 ANSWER 6 OF 11 MEDLINE on STN DUPLICATE 5
 AN 2007767353 MEDLINE <<LOGINID::20090423>>
 DN PubMed ID: 17908325
 TI Deleted in Malignant Brain Tumors 1 (***DMBT1***) is present in
 hyaline membranes and modulates surface tension of surfactant.
 AU Muller Hanna; ***End Caroline*** ; Renner Marcus; Helmke Burkhard M;
 Gassler Nikolaus; Weiss Christel; Hartl Dominik; Griesse Matthias; Hafner
 Mathias; Poustka Annemarie; Mollenhauer Jan; Poeschl Johannes
 CS Division of Neonatology, Department of Pediatrics, University of
 Heidelberg, Im Neuenheimer Feld 153, 69120 Heidelberg, Germany..
 Hanna.Mueller@med.uni-heidelberg.de
 SO Respiratory research, (2007) Vol. 8, pp. 69. Electronic Publication:
 2007-10-01.
 Journal code: 101090633. E-ISSN: 1465-993X.
 Report No.: NLM-PMC2164949.
 CY England: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200801
 ED Entered STN: 29 Dec 2007
 Last Updated on STN: 24 Jan 2008
 Entered Medline: 23 Jan 2008

AB BACKGROUND: Deleted in Malignant Brain Tumors 1 (***DMBT1***) is a
 secreted scavenger receptor cysteine-rich protein that binds various
 bacteria and is thought to participate in innate pulmonary host defense.
 We hypothesized that pulmonary ***DMBT1*** could contribute to
 respiratory distress syndrome in neonates by modulating surfactant
 function. METHODS: ***DMBT1*** expression was studied by
 immunohistochemistry and mRNA in situ hybridization in post-mortem lungs
 of preterm and full-term neonates with pulmonary hyaline membranes. The
 effect of human recombinant ***DMBT1*** on the function of bovine and
 porcine surfactant was measured by a capillary surfactometer.
 DMBT1 -levels in tracheal aspirates of ventilated preterm and term
 infants were determined by ELISA. RESULTS: Pulmonary ***DMBT1*** was
 localized in hyaline membranes during respiratory distress syndrome. In
 vitro addition of human recombinant ***DMBT1*** to the surfactants
 increased surface tension in a dose-dependent manner. The ***DMBT1***
 -mediated effect was reverted by the addition of calcium depending on the
 surfactant preparation. CONCLUSION: Our data showed pulmonary
 DMBT1 expression in hyaline membranes during respiratory distress
 syndrome and demonstrated that ***DMBT1*** increases lung surface

tension in vitro. This raises the possibility that ***DMBT1*** could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target molecule for therapeutic intervention in neonatal lung disease.

L4 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2007:1398177 CAPLUS <<LOGINID::20090423>>

DN 148:446649

TI Deleted in Malignant Brain Tumors 1 (***DMBT1***) is present in hyaline membranes and modulates surface tension of surfactant

AU Mueller, Hanna; ***End, Caroline*** ; Renner, Marcus; Helmke, Burkhard M.; Gassler, Nikolaus; Weiss, Christel; Hartl, Dominik; Griesse, Matthias; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan; Poeschl, Johannes

CS Division of Neonatology, Department of Pediatrics, University of Heidelberg, Heidelberg, 69120, Germany

SO Respiratory Research (2007), 8(1), No pp. given

CODEN: RREEBZ; ISSN: 1465-993X

URL: <http://respiratory-research.com/content/pdf/1465-9921-8-69.pdf>

PB BioMed Central Ltd.

DT Journal; (online computer file)

LA English

AB Background: Deleted in Malignant Brain Tumors 1 (***DMBT1***) is a secreted scavenger receptor cysteine-rich protein that binds various bacteria and is thought to participate in innate pulmonary host defense. The authors hypothesized that pulmonary ***DMBT1*** could contribute to respiratory distress syndrome in neonates by modulating surfactant function. Methods: ***DMBT1*** expression was studied by immunohistochem. and mRNA in situ hybridization in post-mortem lungs of preterm and full-term neonates with pulmonary hyaline membranes. The effect of human recombinant ***DMBT1*** on the function of bovine and porcine surfactant was measured by a capillary surfactometer.

DMBT1 -levels in tracheal aspirates of ventilated preterm and term infants were detd. by ELISA. Results: Pulmonary ***DMBT1*** was localized in hyaline membranes during respiratory distress syndrome. In vitro addn. of human recombinant ***DMBT1*** to the surfactants increased surface tension in a dose-dependent manner. The ***DMBT1*** -mediated effect was reverted by the addn. of calcium depending on the surfactant prepn. Conclusions: The data showed pulmonary ***DMBT1*** expression in hyaline membranes during respiratory distress syndrome and demonstrated that ***DMBT1*** increases lung surface tension in vitro. This raises the possibility that ***DMBT1*** could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target mol. for therapeutic intervention in neonatal lung disease.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>

DN 143:260332

TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents

IN Mollenhauer, Jan; ***End, Caroline*** ; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno

PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany

SO Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		

AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group.

DMBT1 may also be used as a diagnostic for diagnosing the susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

DUPLICATE 6
 AN 2005:324157 BIOSIS <<LOGINID::20090423>>
 DN PREV200510117337
 TI Generation of a vector system facilitating cloning of ***DMBT1***
 variants and recombinant expression of functional full-length
 DMBT1 .
 AU ***End, Caroline*** ; Lyer, Stefan; Renner, Marcus; Stahl, Cordula;
 Ditzer, Jutta; Holloschi, Andreas; Kuhn, Hella-M.; Flammann, Heiko T.;
 Poustka, Annemarie; Hafner, Mathias; Mollenhauer, Jan [Reprint Author];
 Kioschis, Petra
 CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280,
 D-69120 Heidelberg, Germany
 j.mollenhauer@dkfz.de
 SO Protein Expression and Purification, (JUN 2005) Vol. 41, No. 2, pp.
 275-286.
 CODEN: PEXPEJ. ISSN: 1046-5928.
 DT Article
 LA English
 ED Entered STN: 25 Aug 2005
 Last Updated on STN: 25 Aug 2005
 AB Deleted in malignant brain tumours 1 (***DMBT1***) codes for a similar
 to 340 kDa glycoprotein with highly repetitive scavenger receptor
 cysteine-rich (SRCR) domains. ***DMBT1*** was implicated in cancer.
 defence against viral and bacterial infections, and differentiation of
 epithelial cells. Recombinant expression and purification of
 DMBT1 is an essential step for systematic standardized functional
 research and towards the evaluation of its therapeutical potential. So
 far, ***DMBT1*** is obtained from natural sources such as
 bronchioalveolar lavage or saliva, resulting in time consuming sample
 collection, low yields, and protein preparations which may substantially
 vary due to differential processing and genetic polymorphism, all of which
 impedes functional research on ***DMBT1*** . Cloning of ***DMBT1***
 cDNAs is hampered because of the size and the 13 highly homologous SRCR
 exons. In this Study, we report on the setup of a vector system that
 facilitates cloning of ***DMBT1*** variants. We demonstrate
 applicability of the vector system by expression of the largest
 DMBT1 variant in a tetracycline-inducible mammalian expression
 system using the Chinese hamster ovary cell line. Yields up to 30 mg
 rDMBT1 per litre of cell Culture supernatant could be achieved with an
 optimized production procedure. By harnessing the specific
 bacteria-binding property of ***DMBT1*** we established an affinity
 purification procedure which allows the isolation of more than 3 mg rDMBT1
 with a Purity of about 95 %. Although the glycosylation moieties of
 rDMBT1 are different from ***DMBT1*** (SAG) isolated from saliva, we
 demonstrate that rDMBT1 is functionally active in aggregating
 Gram-positive and Gram-negative bacteria and binding to C1q and
 lactoferrin, which represent two known endogenous ***DMBT1*** ligands.
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 L4 ANSWER 10 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
 STN DUPLICATE 7
 AN 2005:69186 BIOSIS <<LOGINID::20090423>>
 DN PREV200500070157
 TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
 VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.
 AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; ***End,***

*** Caroline*** ; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; Wittig, Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V. Nieuw; Poustka, Annemarie; Mollenhauer, Jan

CS Acad Ctr Dent Amsterdam Dept Oral Biochem, Free Univ Amsterdam, Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp. 47699-47703. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Feb 2005
Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group of metazoan proteins characterized by the presence of SRCR domains. These proteins are classified in group A and B based on the number of conserved cysteine residues in their SRCR domains, i.e. six for group A and eight for group B. The protein ***DMBT1*** (deleted in malignant brain tumors 1), which is identical to salivary agglutinin and lung gp-340, belongs to the group B SRCR proteins and is considered to be involved in tumor suppression and host defense by pathogen binding. In a previous study we used non-overlapping synthetic peptides covering the SRCR consensus sequence to identify a 16-amino acid bacteria-binding protein loop (peptide SRCRP2; QGRVEVLYRGSWGTV) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1*** ; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are critical residues in this motif. Bacteria binding by ***DMBT1pbs1*** was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was critical. In addition, the homologous consensus sequences of a number of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L4 ANSWER 11 OF 11 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN

AN 2009:102902 SCISEARCH <<LOGINID::20090423>>

GA The Genuine Article (R) Number: V80CV

TI THE PUTATIVE TUMOR SUPPRESSOR ***DMBT1*** CONFERS MUCOSAL PROTECTION IN VIVO AND INHIBITS BACTERIAL INFECTION IN VITRO

AU Renner, Marcus (Reprint); Bergmann, Gaby; Krebs, Inge; Lyer, Stefan; ***End, Caroline*** ; Sina, Christian; Freidekind, Olga; Poustka, Annemarie; Mollenhauer, Jan

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-69120 Heidelberg, Germany

AU ***End, Caroline*** ; Kioschis, Petra; Haffner, Mathias

CS Univ Appl Sci Mannheim, Inst Mol Biol & Cell Culture Technol, D-68163 Mannheim, Germany

AU Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank

CS Univ Heidelberg, Inst Pathol, D-69120 Heidelberg, Germany

AU Sina, Christian; Rosenstiel, Philip; Schreiber, Stefan

CS Univ Hosp Schleswig Holstein, Dept Med 1, D-24105 Kiel, Germany

AU Reinhard, Claudia; Stoeger, Tobias; Schulz, Holger

CS Natl Ctr Environm & Hlth GmbH, Inst Inhalat Biol, D-85764 Neuherberg,

Germany
AU Hilberg, Frank
CS Boehringer Ingelheim Austria, NCE Pharmacol, R&D Vienna, A-1121 Vienna,
Austria
CYA Germany; Austria
SO ANTICANCER RESEARCH, (SEP-OCT 2004) Vol. 24, No. 5D, pp. 3610-3611. MA
422.
ISSN: 0250-7005.
PB INT INST ANTICANCER RESEARCH, EDITORIAL OFFICE 1ST KM KAPANDRITIOU-KALAMOU
RD KAPANDRITI, PO BOX 22, ATHENS 19014, GREECE.
DT Conference; Journal
LA English
REC Reference Count: 0
ED Entered STN: 29 Jan 2009
Last Updated on STN: 29 Jan 2009

=> e blaich stephanie/au

E1	17	BLAICH S/AU
E2	1	BLAICH SOEREN/AU
E3	21	--> BLAICH STEPHANIE/AU
E4	72	BLAICH T/AU
E5	28	BLAICH TH/AU
E6	16	BLAICH U/AU
E7	4	BLAICH UTA/AU
E8	57	BLAICH W/AU
E9	4	BLAICH WILHELM/AU
E10	2	BLAICH WOLFGANG/AU
E11	1	BLAICHE IMAD F/AU
E12	30	BLAICHER A/AU

=> s e1-e3 and Dmbt?

L5 20 ("BLAICH S"/AU OR "BLAICH SOEREN"/AU OR "BLAICH STEPHANIE"/AU)
AND DMBT?

=> dup rem l5

PROCESSING COMPLETED FOR L5

L6 5 DUP REM L5 (15 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

AN 2009:402136 CAPLUS <<LOGINID::20090423>>

DN 150:327861

TI ***DMBT1*** functions as pattern-recognition molecule for
poly-sulfated and poly-phosphorylated ligands

AU End, Caroline; Bikker, Floris; Renner, Marcus; Bergmann, Gaby; Lyer,
Stefan; ***Blaich, Stephanie*** ; Hudler, Melanie; Helmke, Burkhard;
Gassler, Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner,
Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.;
Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias;
Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan
CS Division of Molecular Genome Analysis, German Cancer Research Center,
Heidelberg, Germany

SO European Journal of Immunology (2009), 39(3), 833-842
CODEN: EJIMAF; ISSN: 0014-2980

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

AB Deleted in malignant brain tumors 1 (*****DMBT1*****) is a secreted glycoprotein displaying a broad bacterial-binding spectrum. Recent functional and genetic studies linked *****DMBT1***** to the suppression of LPS-induced TLR4-mediated NF- κ B activation and to the pathogenesis of Crohn's disease. Here, the authors aimed at unraveling the mol. basis of its function in mucosal protection and of its broad pathogen-binding specificity. The authors report that *****DMBT1***** directly interacts with dextran sulfate sodium (DSS) and carrageenan, a structurally similar sulfated polysaccharide, which is used as a texturizer and thickener in human dietary products. However, binding of *****DMBT1***** does not reduce the cytotoxic effects of these agents to intestinal/epithelial cells in vitro. DSS and carrageenan compete for *****DMBT1*****-mediated bacterial aggregation via interaction with its bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in *****Dmbt1***** $-/-$ and *****Dmbt1***** $+/+$ mice utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that *****DMBT1***** functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L6 ANSWER 2 OF 5 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI *****DMBT1***** confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; *****Blaich, Stephanie*****; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008

Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1 (*****DMBT1*****) is a secreted scavenger receptor cysteine-rich protein with predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here,

we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We studied ***DMBT1*** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within ***DMBT1*** were analyzed in an Italian IBD case-control sample. ***Dmbt1*** (-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L6 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2005:953991 CAPLUS <<LOGINID::20090423>>
 DN 143:260332
 TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents
 IN Mollenhauer, Jan; End, Caroline; ***Blaich, Stephanie*** ; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno
 PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany
 SO Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				

US 20080234185 A1 20080925 US 2006-590657 20060825
PRAI EP 2004-4281 A 20040225
WO 2005-EP1994 W 20050225

AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group.
 DMBT1 may also be used as a diagnostic for diagnosing the susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 5 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
 DUPLICATE 3

AN 2005:69186 BIOSIS <<LOGINID::20090423>>

DN PREV200500070157

TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
 VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.

AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; End,
 Caroline; Renner, Marcus; ***Blaich, Stephanie*** ; Lyer, Stefan;
 Wittig, Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De
 Blicke-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V.
 Nieuw; Poustka, Annemarie; Mollenhauer, Jan

CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam,
 Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
 ajm.ligtenberg@vumc.nl

SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp.
 47699-47703. print.

 CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Feb 2005

 Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group of metazoan proteins characterized by the presence of SRCR domains. These proteins are classified in group A and B based on the number of conserved cysteine residues in their SRCR domains, i.e. six for group A and eight for group B. The protein ***DMBT1*** (deleted in malignant brain tumors 1), which is identical to salivary agglutinin and lung gp-340,

belongs to the group B SRCR proteins and is considered to be involved in tumor suppression and host defense by pathogen binding. In a previous study we used non-overlapping synthetic peptides covering the SRCR consensus sequence to identify a 16-amino acid bacteria-binding protein loop (peptide SRCRP2; QGRVEVLYRGSWGTVTC) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are critical residues in this motif. Bacteria binding by ***DMBT1pbs1*** was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was critical. In addition, the homologous consensus sequences of a number of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L6 ANSWER 5 OF 5 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 4
AN 2004:130519 BIOSIS <<LOGINID::20090423>>
DN PREV200400116079
TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1***
during breast carcinogenesis.
AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel;
Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan;
Diedrichs, Laura; Renner, Marcus; Wittig, Rainer; ***Blaich,***
*** Stephanie***; Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker,
Floris;
Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.;
O'Malley, Bert; Poustka, Annemarie
CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de
SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194.
print.
CODEN: GCCAES. ISSN: 1045-2257.
DT Article
LA English
ED Entered STN: 3 Mar 2004
Last Updated on STN: 3 Mar 2004
AB Deleted in malignant brain tumors 1 (***DMBT1***) has been proposed as
a candidate tumor suppressor for brain and epithelial cancer. Initial
studies suggested loss of expression rather than mutation as the
predominant mode of ***DMBT1*** inactivation. However, in situ
studies in lung cancer demonstrated highly sophisticated changes of
DMBT1 expression and localization, pointing to a chronological
order of events. Here we report on the investigation of ***DMBT1***
in breast cancer in order to test whether these principles might also be
attributable to other tumor types. Comprehensive mutational analyses did
not uncover unambiguous inactivating ***DMBT1*** mutations in breast
cancer. Expression analyses in the human and mouse mammary glands pointed
to the necessity of ***DMBT1*** induction. While age-dependent and
hormonal effects could be ruled out, 9 of 10 mice showed induction of
Dmbt1 expression after administration of the carcinogen
7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or
other histopathological changes. ***DMBT1*** displayed significant
up-regulation in human tumor-flanking tissues compared to in normal breast
tissues (P < 0.05). However, the breast tumor cells displayed a switch

from luminal secretion to secretion to the extracellular matrix and a significant down-regulation compared to that in matched normal flanking tissues ($P < 0.01$). We concluded that loss of expression also is the predominant mode of ***DMBT1*** inactivation in breast cancer. The dynamic behavior of ***DMBT1*** in lung carcinoma is fully reflected in breast cancer, which suggests that this behavior might be common to tumor types arising from monolayered epithelia.

=> e bergmann gaby/au

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E1      1      BERGMANN GABRIEL GUSTAVO/AU
E2      1      BERGMANN GABRIELE/AU
E3     14 --> BERGMANN GABY/AU
E4      5      BERGMANN GADDY T/AU
E5      1      BERGMANN GARSTEN/AU
E6      1      BERGMANN GEB PULTER/AU
E7     93      BERGMANN GEORG/AU
E8      1      BERGMANN GEORG DR/AU
E9      1      BERGMANN GERALD/AU
E10     94      BERGMANN GERD/AU
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E12    36      BERGMANN GERHARD/AU
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=> s e1-e3 and Dmbt?

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L7      14 ("BERGMANN GABRIEL GUSTAVO"/AU OR "BERGMANN GABRIELE"/AU OR "BERGMANN GABY"/AU) AND DMBT?
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=> dup rem 17

PROCESSING COMPLETED FOR L7

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L8      5 DUP REM L7 (9 DUPLICATES REMOVED)
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YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

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L8      ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2009 ACS on STN  DUPLICATE 1
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AN      2009:402136  CAPLUS <<LOGINID::20090423>>
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DN      150:327861
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TI      ***DMBT1***  functions as pattern-recognition molecule for
poly-sulfated and poly-phosphorylated ligands
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AU      End, Caroline; Bikker, Floris; Renner, Marcus; ***Bergmann, Gaby*** ;
Lyer, Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard;
Gassler, Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner,
Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.;
Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias;
Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan
CS      Division of Molecular Genome Analysis, German Cancer Research Center,
Heidelberg, Germany
```

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SO      European Journal of Immunology (2009), 39(3), 833-842
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CODEN: EJIMAF; ISSN: 0014-2980
```

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PB      Wiley-VCH Verlag GmbH & Co. KGaA
```

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DT      Journal
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LA      English
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AB      Deleted in malignant brain tumors 1 ( ***DMBT1*** ) is a secreted
glycoprotein displaying a broad bacterial-binding spectrum. Recent
functional and genetic studies linked ***DMBT1*** to the suppression
of LPS-induced TLR4-mediated NF- $\kappa$ B activation and to the
pathogenesis of Crohn's disease. Here, the authors aimed at unraveling
```

the mol. basis of its function in mucosal protection and of its broad pathogen-binding specificity. The authors report that ***DMBT1*** directly interacts with dextran sulfate sodium (DSS) and carrageenan, a structurally similar sulfated polysaccharide, which is used as a texturizer and thickener in human dietary products. However, binding of ***DMBT1*** does not reduce the cytotoxic effects of these agents to intestinal/epithelial cells in vitro. DSS and carrageenan compete for ***DMBT1***-mediated bacterial aggregation via interaction with its bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in ***Dmbt1*** -/- and ***Dmbt1*** +/- mice utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that ***DMBT1*** functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L8 ANSWER 2 OF 5 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2
 AN 2008:112593 BIOSIS <<LOGINID::20090423>>
 DN PREV200800114726
 TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.
 AU Renner, Marcus; ***Bergmann, Gaby*** ; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan [Reprint Author]
 CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
 j.mollenhauer@dkfz.de
 SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
 CODEN: GASTAB. ISSN: 0016-5085.
 DT Article
 LA English
 ED Entered STN: 13 Feb 2008
 Last Updated on STN: 13 Feb 2008
 AB Background & Aims: Impaired mucosal. defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1(***DMBT1***) is a secreted scavenger receptor cysteine-rich protein with

predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We studied ***DMBT1*** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within ***DMBT1*** were analyzed in an Italian IBD case-control sample. ***Dmbt1*** (-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with

disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced: number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P =.00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L8 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>

DN 143:260332

TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents

IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; ***Bergmann, Gaby***; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno

PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany

SO Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		

AB Disclosed is the use of ***DMBT1***, or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group.

DMBT1 may also be used as a diagnostic for diagnosing the

susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 5 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2009:102902 SCISEARCH <<LOGINID::20090423>>
GA The Genuine Article (R) Number: V80CV
TI THE PUTATIVE TUMOR SUPPRESSOR ***DMBT1*** CONFERS MUCOSAL PROTECTION IN VIVO AND INHIBITS BACTERIAL INFECTION IN VITRO
AU Renner, Marcus (Reprint); ***Bergmann, Gaby*** ; Krebs, Inge; Lyer, Stefan; End, Caroline; Sina, Christian; Freidekind, Olga; Poustka, Annemarie; Mollenhauer, Jan
CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-69120 Heidelberg, Germany
AU End, Caroline; Kioschis, Petra; Haffner, Mathias
CS Univ Appl Sci Mannheim, Inst Mol Biol & Cell Culture Technol, D-68163 Mannheim, Germany
AU Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank
CS Univ Heidelberg, Inst Pathol, D-69120 Heidelberg, Germany
AU Sina, Christian; Rosenstiel, Philip; Schreiber, Stefan
CS Univ Hosp Schleswig Holstein, Dept Med 1, D-24105 Kiel, Germany
AU Reinhard, Claudia; Stoeger, Tobias; Schulz, Holger
CS Natl Ctr Environm & Hlth GmbH, Inst Inhalat Biol, D-85764 Neuherberg, Germany
AU Hilberg, Frank
CS Boehringer Ingelheim Austria, NCE Pharmacol, R&D Vienna, A-1121 Vienna, Austria
CYA Germany; Austria
SO ANTICANCER RESEARCH, (SEP-OCT 2004) Vol. 24, No. 5D, pp. 3610-3611. MA 422.
ISSN: 0250-7005.
PB INT INST ANTICANCER RESEARCH, EDITORIAL OFFICE 1ST KM KAPANDRITIOU-KALAMOU RD KAPANDRITI, PO BOX 22, ATHENS 19014, GREECE.
DT Conference; Journal
LA English
REC Reference Count: 0
ED Entered STN: 29 Jan 2009
Last Updated on STN: 29 Jan 2009

L8 ANSWER 5 OF 5 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
 DUPLICATE 3
 AN 2004:130519 BIOSIS <<LOGINID::20090423>>
 DN PREV200400116079
 TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1***
 during breast carcinogenesis.
 AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel;
 Bergmann, Gaby ; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan;
 Diedrichs, Laura; Renner, Marcus; Wittig, Rainer; Blaich, Stephanie;
 Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker, Floris; Ligtenberg,
 Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.; O'Malley, Bert;
 Poustka, Annemarie
 CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
 Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
 j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de
 SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194.
 print.
 CODEN: GCCAES. ISSN: 1045-2257.
 DT Article
 LA English
 ED Entered STN: 3 Mar 2004
 Last Updated on STN: 3 Mar 2004
 AB Deleted in malignant brain tumors 1 (***DMBT1***) has been proposed as
 a candidate tumor suppressor for brain and epithelial cancer. Initial
 studies suggested loss of expression rather than mutation as the
 predominant mode of ***DMBT1*** inactivation. However, in situ
 studies in lung cancer demonstrated highly sophisticated changes of
 DMBT1 expression and localization, pointing to a chronological
 order of events. Here we report on the investigation of ***DMBT1***
 in breast cancer in order to test whether these principles might also be
 attributable to other tumor types. Comprehensive mutational analyses did
 not uncover unambiguous inactivating ***DMBT1*** mutations in breast
 cancer. Expression analyses in the human and mouse mammary glands pointed
 to the necessity of ***DMBT1*** induction. While age-dependent and
 hormonal effects could be ruled out, 9 of 10 mice showed induction of
 Dmbt1 expression after administration of the carcinogen
 7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or
 other histopathological changes. ***DMBT1*** displayed significant
 up-regulation in human tumor-flanking tissues compared to in normal breast
 tissues (P < 0.05). However, the breast tumor cells displayed a switch
 from luminal secretion to secretion to the extracellular matrix and a
 significant down-regulation compared to that in matched normal flanking
 tissues (P < 0.01). We concluded that loss of expression also is the
 predominant mode of ***DMBT1*** inactivation in breast cancer. The
 dynamic behavior of ***DMBT1*** in lung carcinoma is fully reflected
 in breast cancer, which suggests that this behavior might be common to
 tumor types arising from monolayered epithelia.

=> Renner marcus/au

RENNER IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.
 For a list of commands available to you in the current file, enter
 "HELP COMMANDS" at an arrow prompt (=>).

=> e renner marcus/au

E1	5	RENNER MARCIA F/AU
E2	3	RENNER MARCIA FERRET/AU
E3	45 -->	RENNER MARCUS/AU
E4	7	RENNER MARIA KLARA/AU
E5	21	RENNER MARIANNE/AU
E6	15	RENNER MARIANNE L/AU
E7	4	RENNER MARK/AU
E8	1	RENNER MARK E/AU
E9	69	RENNER MARK W/AU
E10	1	RENNER MARK WILLIAM/AU
E11	7	RENNER MARKUS/AU
E12	27	RENNER MARTIN/AU

=> s e3

L9 45 "RENNER MARCUS"/AU

=> dup rem l9

PROCESSING COMPLETED FOR L9

L10 17 DUP REM L9 (28 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 17 ANSWERS - CONTINUE? Y/(N):y

L10 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

AN 2009:402136 CAPLUS <<LOGINID::20090423>>

DN 150:327861

TI DMBT1 functions as pattern-recognition molecule for poly-sulfated and poly-phosphorylated ligands

AU End, Caroline; Bikker, Floris; ***Renner, Marcus*** ; Bergmann, Gaby; Lyer, Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner, Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.; Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias; Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan

CS Division of Molecular Genome Analysis, German Cancer Research Center, Heidelberg, Germany

SO European Journal of Immunology (2009), 39(3), 833-842
CODEN: EJIMAF; ISSN: 0014-2980

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

AB Deleted in malignant brain tumors 1 (DMBT1) is a secreted glycoprotein displaying a broad bacterial-binding spectrum. Recent functional and genetic studies linked DMBT1 to the suppression of LPS-induced TLR4-mediated NF- κ B activation and to the pathogenesis of Crohn's disease. Here, the authors aimed at unraveling the mol. basis of its function in mucosal protection and of its broad pathogen-binding specificity. The authors report that DMBT1 directly interacts with dextran sulfate sodium (DSS) and carrageenan, a structurally similar sulfated polysaccharide, which is used as a texturizer and thickener in human dietary products. However, binding of DMBT1 does not reduce the cytotoxic effects of these agents to intestinal/epithelial cells in vitro. DSS and carrageenan compete for DMBT1-mediated bacterial aggregation via interaction with its bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in *Dmbt1*^{-/-} and *Dmbt1*^{+/+} mice

utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that DMBT1 functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L10 ANSWER 2 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 2

AN 2009:132171 BIOSIS <<LOGINID::20090423>>

DN PREV200900132171

TI DMBT1 expression distinguishes anorectal from cutaneous melanoma.

AU Helmke, Burkhard Maria [Reprint Author]; ***Renner, Marcus*** ;
Poustka, Annemarie; Schirmacher, Peter; Mollenhauer, Jan; Kern, Michael
Andre

CS Univ Heidelberg, Inst Pathol, Neuenheimer Feld 220-221, D-69120
Heidelberg, Germany
burkhard.helmke@elbekliniken.de

SO Histopathology (Oxford), (JAN 2009) Vol. 54, No. 2, pp. 233-240.
ISSN: 0309-0167.

DT Article

LA English

ED Entered STN: 18 Feb 2009

Last Updated on STN: 25 Feb 2009

AB Anorectal melanoma (AM) forms a rare but highly malignant subset of mucosal melanoma with an extremely poor prognosis. Although AMs display histological and immunohistochemical features very similar to cutaneous melanoma (CM), no association exists either with exposure to ultraviolet light or with melanocytic naevi. While AMs are clearly distinguished from CM by displaying few BRAF mutations, they are commonly indistinguishable from CM at the level of gene expression. The aim was to carry out expression analyses of classical immunohistochemical markers and of the protein deleted in malignant brain tumours 1 (DMBT1) in cases of primary anorectal malignant melanoma and CM. Expression analyses of classical immunohistochemical markers (S100, HMB45, Melan A and MiTF) and of the protein DMBT1 were carried out in 27 cases of primary anorectal malignant melanoma and 26 cases of CM. All AM cases analysed showed expression of at least three of the classical markers for melanoma. However, immunohistochemistry showed 19 out of 27 AM to be positive for DMBT1, which represented a statistically significant difference ($P = 0.0009$) compared with CM (six out of 26), which more commonly are negative for DMBT1 expression. These results identify DMBT1 as a molecular feature that may allow distinction between AM and CM and support the notion that AM represents an entity molecularly distinct from CM.

L10 ANSWER 3 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 3

AN 2007:440147 BIOSIS <<LOGINID::20090423>>

DN PREV200700436905

TI Regulation of DMBT1 via NOD2 and TLR4 in intestinal epithelial cells
modulates bacterial recognition and invasion.

AU Rosenstiel, Philip; Sina, Christian; End, Caroline; ***Renner, Marcus***
; Lyer, Stefan; Till, Andreas; Hellmig, Stephan; Nikolaus, Susanna;
Foelsch, Ulrich R.; Helmke, Burkhard; Autschbach, Frank; Schirmacher,
Peter; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer,
Jan; Schreiber, Stefan [Reprint Author]

CS Univ Hosp Schleswig Holstein, Inst Clin Mol Biol, Campus

Kiel, Schittenhelmstrache 12, Kiel, Germany
s.schreiber@mucosa.de

SO Journal of Immunology, (JUN 15 2007) Vol. 178, No. 12, pp. 8203-8211.
CODEN: JOIMA3. ISSN: 0022-1767.

DT Article

LA English

ED Entered STN: 15 Aug 2007
Last Updated on STN: 15 Aug 2007

AB Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. Deleted in malignant brain tumors 1 (DMBT1) belongs to the group of secreted scavenger receptor cysteine-rich proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of DMBT1 in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. We report that intestinal epithelial cells up-regulate DMBT1 upon proinflammatory stimuli (e.g., TNF-alpha, LPS). We demonstrate that DMBT1 is a target gene for the intracellular pathogen receptor NOD2 via NF-kappa B activation. DMBT1 is strongly up-regulated in the inflamed intestinal mucosa of Crohn's disease patients with wild-type, but not with mutant NOD2. We show that DMBT1 inhibits cytoinvasion of Salmonella enterica and LPS- and muramyl dipeptide-induced NF-kappa B activation and cytokine secretion in vitro. Thus, DMBT1 may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal DMBT1 expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn's disease.

L10 ANSWER 4 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 4

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI DMBT1 confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.

AU ***Renner, Marcus*** ; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008
Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1 (DMBT1) is a secreted scavenger receptor cysteine-rich protein with predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here,

we aimed at analyzing the role of DMBT1 in IBD. Methods: We studied DMBT1 expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within DMBT1 were analyzed in an Italian IBD case-control sample. Dmbt1(-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: DMBT1 levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of DMBT1 specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of DMBT1 with a reduced number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis. Dmbt1(-/-) mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: DMBT1 may play a role in intestinal mucosal protection and prevention of inflammation. Impaired DMBT1 function may contribute to the pathogenesis of CD.

L10 ANSWER 5 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 5
AN 2007:411406 BIOSIS <<LOGINID::20090423>>
DN PREV200700411064
TI DMBT1 is frequently downregulated in well-differentiated gastric carcinoma
but more frequently upregulated across various gastric cancer types.
AU Conde, Ana R. [Reprint Author]; Martins, Ana P.; Brito, Miguel; Manuel,
Armandina; Ramos, Sancia; Malta-Vacas, Joana; ***Renner, Marcus*** ;
Poustka, Annemarie; Mollenhauer, Jan; Monteiro, Carolino
CS Univ Lisbon, Fac Farm, Av Prof Gama Pinto, P-1649003 Lisbon, Portugal
arconde@ff.ul.pt
SO International Journal of Oncology, (JUN 2007) Vol. 30, No. 6, pp.
1441-1446.
ISSN: 1019-6439.
DT Article
LA English
ED Entered STN: 1 Aug 2007
Last Updated on STN: 1 Aug 2007
AB Well-differentiated gastric carcinomas are considered to represent a
distinct entity emerging via specific molecular changes different from
those found in other gastric carcinoma types. The gene deleted in
malignant brain tumours 1 (DMBT1) at 10q25.3-q26.1 codes for a protein
presumably involved in cell differentiation and protection and has been
proposed as a candidate tumour suppressor for brain and epithelial cancer.
One study reported a loss of DMBT1 expression in 12.5% (5/40) of gastric
cancer samples. Here, we examined in more detail DMBT1 protein and mRNA
expression in 78 primary gastric tumour samples and corresponding normal
gastric mucosa. DMBT1 was expressed in all non-tumour gastric mucosa
tissues. Eleven out of 71 (15%) gastric tumours were negative for the
DMBT1 protein in immunohistochemical analyses. Lack of DMBT1 expression
was significantly more frequently found in well-differentiated gastric
tumours (6/18 well-differentiated tumours vs. 5/53 other subtypes;
P=0.025). Quantitative RT-PCR revealed a downregulation of the DMBT1
miRNA for 8/21 (38%) cases, while the remaining 13 cases (62%) displayed a
substantial upregulation. Our data suggest that a loss of DMBT1
expression may preferentially take place in well-differentiated gastric
carcinoma. However, an upregulation of DMBT1 expression is more
frequently found across all gastric cancer types.

L10 ANSWER 6 OF 17 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN
 AN 2007:343766 SCISEARCH <<LOGINID::20090423>>
 GA The Genuine Article (R) Number: 142JH
 TI Respiratory DMBT1 levels increase during lung maturation and infection and modulate surfactant function
 AU Mueller, Hanna (Reprint); End, Caroline; Weiss, Christel; ***Renner,***
 *** Marcus*** ; Mollenhauer, Jan; Linderkamp, Otwin
 CS Univ Heidelberg, Div Neonatol, Dept Pediat, D-6900 Heidelberg, Germany; Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-6900 Heidelberg, Germany; Univ Hosp Mannheim, Inst Med Sci, Mannheim, Germany
 CYA Germany
 SO EUROPEAN JOURNAL OF PEDIATRICS, (MAR 2007) Vol. 166, No. 3, pp. 279-279. ISSN: 0340-6199.
 PB SPRINGER, 233 SPRING STREET, NEW YORK, NY 10013 USA.
 DT Conference; Journal
 LA English
 REC Reference Count: 0
 ED Entered STN: 5 Apr 2007
 Last Updated on STN: 5 Apr 2007

L10 ANSWER 7 OF 17 MEDLINE on STN DUPLICATE 6
 AN 2007767353 MEDLINE <<LOGINID::20090423>>
 DN PubMed ID: 17908325
 TI Deleted in Malignant Brain Tumors 1 (DMBT1) is present in hyaline membranes and modulates surface tension of surfactant.
 AU Muller Hanna; End Caroline; ***Renner Marcus*** ; Helmke Burkhard M; Gassler Nikolaus; Weiss Christel; Hartl Dominik; Griesse Matthias; Hafner Mathias; Poustka Annemarie; Mollenhauer Jan; Poeschl Johannes
 CS Division of Neonatology, Department of Pediatrics, University of Heidelberg, Im Neuenheimer Feld 153, 69120 Heidelberg, Germany.. Hanna.Mueller@med.uni-heidelberg.de
 SO Respiratory research, (2007) Vol. 8, pp. 69. Electronic Publication: 2007-10-01.
 Journal code: 101090633. E-ISSN: 1465-993X.
 Report No.: NLM-PMC2164949.
 CY England: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200801
 ED Entered STN: 29 Dec 2007
 Last Updated on STN: 24 Jan 2008
 Entered Medline: 23 Jan 2008
 AB BACKGROUND: Deleted in Malignant Brain Tumors 1 (DMBT1) is a secreted scavenger receptor cysteine-rich protein that binds various bacteria and is thought to participate in innate pulmonary host defense. We hypothesized that pulmonary DMBT1 could contribute to respiratory distress syndrome in neonates by modulating surfactant function. METHODS: DMBT1 expression was studied by immunohistochemistry and mRNA in situ hybridization in post-mortem lungs of preterm and full-term neonates with pulmonary hyaline membranes. The effect of human recombinant DMBT1 on the function of bovine and porcine surfactant was measured by a capillary surfactometer. DMBT1-levels in tracheal aspirates of ventilated preterm and term infants were determined by ELISA. RESULTS: Pulmonary DMBT1 was localized in hyaline membranes during respiratory distress syndrome. In

vitro addition of human recombinant DMBT1 to the surfactants increased surface tension in a dose-dependent manner. The DMBT1-mediated effect was reverted by the addition of calcium depending on the surfactant preparation. CONCLUSION: Our data showed pulmonary DMBT1 expression in hyaline membranes during respiratory distress syndrome and demonstrated that DMBT1 increases lung surface tension in vitro. This raises the possibility that DMBT1 could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target molecule for therapeutic intervention in neonatal lung disease.

L10 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2007:1398177 CAPLUS <<LOGINID::20090423>>

DN 148:446649

TI Deleted in Malignant Brain Tumors 1 (DMBT1) is present in hyaline membranes and modulates surface tension of surfactant

AU Mueller, Hanna; End, Caroline; ***Renner, Marcus*** ; Helmke, Burkhard M.; Gassler, Nikolaus; Weiss, Christel; Hartl, Dominik; Griesse, Matthias; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan; Poeschl, Johannes
CS Division of Neonatology, Department of Pediatrics, University of Heidelberg, Heidelberg, 69120, Germany

SO Respiratory Research (2007), 8(1), No pp. given

CODEN: RREEBZ; ISSN: 1465-993X

URL: <http://respiratory-research.com/content/pdf/1465-9921-8-69.pdf>

PB BioMed Central Ltd.

DT Journal; (online computer file)

LA English

AB Background: Deleted in Malignant Brain Tumors 1 (DMBT1) is a secreted scavenger receptor cysteine-rich protein that binds various bacteria and is thought to participate in innate pulmonary host defense. The authors hypothesized that pulmonary DMBT1 could contribute to respiratory distress syndrome in neonates by modulating surfactant function. Methods: DMBT1 expression was studied by immunohistochem. and mRNA in situ hybridization in post-mortem lungs of preterm and full-term neonates with pulmonary hyaline membranes. The effect of human recombinant DMBT1 on the function of bovine and porcine surfactant was measured by a capillary surfactometer. DMBT1-levels in tracheal aspirates of ventilated preterm and term infants were detd. by ELISA. Results: Pulmonary DMBT1 was localized in hyaline membranes during respiratory distress syndrome. In vitro addn. of human recombinant DMBT1 to the surfactants increased surface tension in a dose-dependent manner. The DMBT1-mediated effect was reverted by the addn. of calcium depending on the surfactant prepn. Conclusions: The data showed pulmonary DMBT1 expression in hyaline membranes during respiratory distress syndrome and demonstrated that DMBT1 increases lung surface tension in vitro. This raises the possibility that DMBT1 could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target mol. for therapeutic intervention in neonatal lung disease.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 9 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 7

AN 2006:604365 BIOSIS <<LOGINID::20090423>>

DN PREV200600609765

TI Molecular characterization of the porcine deleted in malignant brain tumors 1 gene (DMBT1).

AU Haase, Bianca; Humphray, Sean J.; Lyer, Stefan; ***Renner, Marcus*** ;

CS Poustka, Annemarie; Mollenhauer, Jan; Leeb, Tosso [Reprint Author]
 Univ Bern, Vetsuisse Fac, Inst Genet, Bremgartenstr 109A, CH-3001 Bern,
 Switzerland
 Tosso.Leeb@itz.unibe.ch
 SO Gene (Amsterdam), (JUL 19 2006) Vol. 376, No. 2, pp. 184-191.
 CODEN: GENED6. ISSN: 0378-1119.
 DT Article
 LA English
 ED Entered STN: 15 Nov 2006
 Last Updated on STN: 15 Nov 2006
 AB The human gene deleted in malignant brain tumors 1 (DMBT1) is considered
 to play a role in tumorigenesis and pathogen defense. It encodes a
 protein with multiple scavenger receptor cysteine-rich (SRCR) domains,
 which are involved in recognition and binding of a broad spectrum of
 bacterial pathogens. The SRCR domains are encoded by highly homologous
 repetitive exons, whose number in humans may vary from 8 to 13 due to
 genetic polymorphism. Here, we characterized the porcine DMBT1 gene on
 the mRNA and genomic level. We assembled a 4.5 kb porcine DMBT1 cDNA
 sequence from RT-PCR amplified seminal vesicle RNA. The porcine DMBT1
 cDNA contains an open reading frame of 4050 nt. The transcript gives rise
 to a putative polypeptide of 1349 amino acids with a calculated mass of
 147.9 kDa. Compared to human DMBT1, it contains only four N-terminal SRCR
 domains. Northern blotting revealed transcripts of similar to 4.7 kb in
 size in the tissues analyzed. Analysis of ESTs suggested the existence of
 secreted and transmembrane variants. The porcine DMBT1 gene spans about
 54 kb on chromosome 14q28-q29. In contrast to the characterized cDNA, the
 genomic BAC clone only contained 3 exons coding for N-terminal SRCR
 domains. In different mammalian DMBT1 orthologs large interspecific
 differences in the number of SRCR exons and utilization of the
 transmembrane exon exist. Our data suggest that the porcine DMBT1 gene
 may share with the human DMBT1 gene additional intraspecific variations in
 the number of SRCR-coding exons. (c) 2006 Elsevier B.V. All rights
 reserved.

L10 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2005:953991 CAPLUS <<LOGINID::20090423>>
 DN 143:260332
 TI Use of DMBT1 protein for capturing sulfate and phosphate groups exposed in
 disease-associated agents
 IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby;
 Renner, Marcus ; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie;
 Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno
 PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts,
 Germany
 SO Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
 MR, NE, SN, TD, TG
 EP 1727558 A1 20061206 EP 2005-732131 20050225
 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
 IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
 US 20080234185 A1 20080925 US 2006-590657 20060825
 PRAI EP 2004-4281 A 20040225
 WO 2005-EP1994 W 20050225
 AB Disclosed is the use of DMBT1, or of the nucleic acid encoding it, for the
 manuf. of a medicament for the treatment of a patient suffering from a
 disease caused by an agent which possesses at least one accessible sulfate
 and/or at least one accessible phosphate group. DMBT1 may also be used as
 a diagnostic for diagnosing the susceptibility of an individual to sulfate
 or phosphate groups, as well in methods for diagnosis, prophylaxis or
 treatment of diseases caused by an agent which possesses at least one
 accessible sulfate and/or at least one accessible phosphate group. The
 invention is based on the discovery that human protein DMBT1 (Deleted in
 Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor
 for non-self (bacterial cell wall components, gp120 of HIV, damage-,
 inflammation-, and cancer-causing sulfated carbohydrates) and self
 structures (DNA, phospholipids, cell surface and extracellular matrix
 carbohydrates), which interacts with accessible sulfate and or phosphate
 groups, which are present on numerous compds., compns., and organisms.
 Pattern recognition of DMBT1 is mediated via an 11-amino acid motif
 (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a
 dual-specific PRR, DMBT1 may exert a general insulator function against a
 broad range of pathogens, which predicts a contribution of DMBT1 germline
 deletions to human susceptibility to infection, inflammation, and cancer.
 Furthermore, a 40% decreased level of DMBT1 in male mice correlates with
 an increased susceptibility and with a deficient protection against
 dextran sulfate sodium-induced tissue damage and inflammation in the
 colon.
 RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT
 L10 ANSWER 11 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
 STN DUPLICATE 8
 AN 2005:324157 BIOSIS <<LOGINID::20090423>>
 DN PREV200510117337
 TI Generation of a vector system facilitating cloning of DMBT1 variants and
 recombinant expression of functional full-length DMBT1.
 AU End, Caroline; Lyer, Stefan; ***Renner, Marcus*** ; Stahl, Cordula;
 Ditzler, Jutta; Holloschi, Andreas; Kuhn, Hella-M.; Flammann, Heiko T.;
 Poustka, Annemarie; Hafner, Mathias; Mollenhauer, Jan [Reprint Author];
 Kioschis, Petra
 CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280,
 D-69120 Heidelberg, Germany
 j.mollenhauer@dkfz.de
 SO Protein Expression and Purification, (JUN 2005) Vol. 41, No. 2, pp.

275-286.

CODEN: PEXPEJ. ISSN: 1046-5928.

DT Article

LA English

ED Entered STN: 25 Aug 2005

Last Updated on STN: 25 Aug 2005

AB Deleted in malignant brain tumours 1 (DMBT1) codes for a similar to 340 kDa glycoprotein with highly repetitive scavenger receptor cysteine-rich (SRCR) domains. DMBT1 was implicated in cancer. defence against viral and bacterial infections, and differentiation of epithelial cells. Recombinant expression and purification of DMBT1 is an essential step for systematic standardized functional research and towards the evaluation of its therapeutical potential. So far, DMBT1 is obtained from natural sources such as bronchioalveolar lavage or saliva, resulting in time consuming sample collection, low yields, and protein preparations which may substantially vary due to differential processing and genetic polymorphism, all of which impedes functional research on DMBT1. Cloning of DMBT1 cDNAs is hampered because of the size and the 13 highly homologous SRCR exons. In this Study, we report on the setup of a vector system that facilitates cloning of DMBT1 variants. We demonstrate applicability of the vector system by expression of the largest DMBT1 variant in a tetracycline-inducible mammalian expression system using the Chinese hamster ovary cell line. Yields up to 30 mg rDMBT1 per litre of cell Culture supernatant could be achieved with an optimized production procedure. By harnessing the specific bacteria-binding property of DMBT1 we established an affinity purification procedure which allows the isolation of more than 3 mg rDMBT1 with a Purity of about 95 %. Although the glycosylation moieties of rDMBT1 are different from DMBT1(SAG) isolated from saliva, we demonstrate that rDMBT1 is functionally active in aggregating Gram-positive and Gram-negative bacteria and binding to Clq and lactoferrin, which represent two known endogenous DMBT1 ligands. (c) 2005 Elsevier Inc. All rights reserved.

L10 ANSWER 12 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 9

AN 2005:69186 BIOSIS <<LOGINID::20090423>>

DN PREV200500070157

TI Bacteria binding by DMBT1/SAG/gp-340 is confined to the VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.

AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; End, Caroline; ***Renner, Marcus*** ; Blaich, Stephanie; Lyer, Stefan; Wittig, Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V. Nieuw; Poustka, Annemarie; Mollenhauer, Jan

CS Acad Ctr Dent Amsterdam Dept Oral Biochem, Free Univ Amsterdam, Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp. 47699-47703. print.

CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Feb 2005

Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group of metazoan proteins characterized by the presence of SRCR domains. These proteins are classified in group A and B based on the number of conserved

cysteine residues in their SRCR domains, i.e. six for group A and eight for group B. The protein DMBT1 (deleted in malignant brain tumors 1), which is identical to salivary agglutinin and lung gp-340, belongs to the group B SRCR proteins and is considered to be involved in tumor suppression and host defense by pathogen binding. In a previous study we used non-overlapping synthetic peptides covering the SRCR consensus sequence to identify a 16-amino acid bacteria-binding protein loop (peptide SRCRP2; QGRVEVLYRGSWGTV) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus DMBT1, to an 11-amino acid motif (DMBT1 pathogen-binding site 1 or DMBT1pbs1; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are critical residues in this motif. Bacteria binding by DMBT1pbs1 was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was critical. In addition, the homologous consensus sequences of a number of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of DMBT1 orthologues bound bacteria by this motif.

L10 ANSWER 13 OF 17 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on
STN
AN 2009:102902 SCISEARCH <<LOGINID::20090423>>
GA The Genuine Article (R) Number: V80CV
TI THE PUTATIVE TUMOR SUPPRESSOR DMBT1 CONFERS MUCOSAL PROTECTION IN VIVO AND
INHIBITS BACTERIAL INFECTION IN VITRO
AU ***Renner, Marcus (Reprint)*** ; Bergmann, Gaby; Krebs, Inge; Lyer,
Stefan; End, Caroline; Sina, Christian; Freidekind, Olga; Poustka,
Annemarie; Mollenhauer, Jan
CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-69120 Heidelberg,
Germany
AU End, Caroline; Kioschis, Petra; Haffner, Mathias
CS Univ Appl Sci Mannheim, Inst Mol Biol & Cell Culture Technol, D-68163
Mannheim, Germany
AU Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank
CS Univ Heidelberg, Inst Pathol, D-69120 Heidelberg, Germany
AU Sina, Christian; Rosenstiel, Philip; Schreiber, Stefan
CS Univ Hosp Schleswig Holstein, Dept Med 1, D-24105 Kiel, Germany
AU Reinhard, Claudia; Stoeger, Tobias; Schulz, Holger
CS Natl Ctr Environm & Hlth GmbH, Inst Inhalat Biol, D-85764 Neuherberg,
Germany
AU Hilberg, Frank
CS Boehringer Ingelheim Austria, NCE Pharmacol, R&D Vienna, A-1121 Vienna,
Austria
CYA Germany; Austria
SO ANTICANCER RESEARCH, (SEP-OCT 2004) Vol. 24, No. 5D, pp. 3610-3611. MA
422.
ISSN: 0250-7005.
PB INT INST ANTICANCER RESEARCH, EDITORIAL OFFICE 1ST KM KAPANDRITIOU-KALAMOU
RD KAPANDRITI, PO BOX 22, ATHENS 19014, GREECE.
DT Conference; Journal
LA English
REC Reference Count: 0
ED Entered STN: 29 Jan 2009
Last Updated on STN: 29 Jan 2009

L10 ANSWER 14 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 10
AN 2004:130519 BIOSIS <<LOGINID::20090423>>

DN PREV200400116079

TI Carcinogen inducibility in vivo and down-regulation of DMBT1 during breast carcinogenesis.

AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel; Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan; Diedrichs, Laura; ***Renner, Marcus*** ; Wittig, Rainer; Blaich, Stephanie; Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker, Floris; Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.; O'Malley, Bert; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de

SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194.
print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 3 Mar 2004
Last Updated on STN: 3 Mar 2004

AB Deleted in malignant brain tumors 1 (DMBT1) has been proposed as a candidate tumor suppressor for brain and epithelial cancer. Initial studies suggested loss of expression rather than mutation as the predominant mode of DMBT1 inactivation. However, in situ studies in lung cancer demonstrated highly sophisticated changes of DMBT1 expression and localization, pointing to a chronological order of events. Here we report on the investigation of DMBT1 in breast cancer in order to test whether these principles might also be attributable to other tumor types. Comprehensive mutational analyses did not uncover unambiguous inactivating DMBT1 mutations in breast cancer. Expression analyses in the human and mouse mammary glands pointed to the necessity of DMBT1 induction. While age-dependent and hormonal effects could be ruled out, 9 of 10 mice showed induction of Dmbt1 expression after administration of the carcinogen 7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or other histopathological changes. DMBT1 displayed significant up-regulation in human tumor-flanking tissues compared to in normal breast tissues ($P < 0.05$). However, the breast tumor cells displayed a switch from luminal secretion to secretion to the extracellular matrix and a significant down-regulation compared to that in matched normal flanking tissues ($P < 0.01$). We concluded that loss of expression also is the predominant mode of DMBT1 inactivation in breast cancer. The dynamic behavior of DMBT1 in lung carcinoma is fully reflected in breast cancer, which suggests that this behavior might be common to tumor types arising from monolayered epithelia.

L10 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2003:814177 CAPLUS <<LOGINID::20090423>>

DN 140:120365

TI Spin- and charge excitations of the triangular Hubbard-model: a FLEX-study

AU ***Renner, Marcus*** ; Brenig, Wolfram

CS Inst. Theoretische Phys., Technische Univ. Braunschweig, Braunschweig, 38106, Germany

SO Los Alamos National Laboratory, Preprint Archive, Condensed Matter (2003) 1-5, arXiv:cond-mat/0310244, 12 Oct 2003
CODEN: LNCMFR
URL: <http://xxx.lanl.gov/pdf/cond-mat/0310244>

PB Los Alamos National Laboratory

DT Preprint

LA English
AB A study of the quasi-particle excitations and spin fluctuations in the one-band Hubbard-model on the triangular lattice with nearest- and next-nearest-neighbor hopping is presented. Using the fluctuation-exchange-approxn. (FLEX) results for the quasi-particle dispersion and life-time, the Fermi surface, and the static spin structure factor will be discussed for a wide range of dopings and as a function of the Coulomb correlation strength U. It is shown that the renormalization of the spin- and charge-dynamics is sensitive to the interplay between van Hove singularity-effects and the nesting, which is influenced by the next-nearest-neighbor hopping. For all dopings investigated, the energy-dependence of the quasi-particle life time is found to be of conventional Fermi-liq. nature. At intermediate correlation strength the static structure factor is strongly doping dependent, with a large commensurate peak at the K-point for 1.35 electrons per site and weak, incommensurate intensities occurring at lower electron densities. The relevance of this model to the recently discovered cobaltates $\text{NaCoO}_2 \cdot x\text{H}_2\text{O}$ will be discussed.

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:1158877 CAPLUS <<LOGINID::20090423>>
DN 143:396924
TI The Hubbard model on the anisotropic and isotropic triangular lattice in the fluctuation exchange approximation
AU ***Renner, Marcus***
CS Germany
SO (2003) No pp. given Avail.: Metadata on Internet Documents, Order No. 26307
From: Metadata Internet Doc. [Ger. Diss.] 2003, (D1028-1), No pp. given
URL: <http://www.meind.de/search.py?recid=26307>
DT Dissertation
LA German
AB Unavailable

L10 ANSWER 17 OF 17 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2003:584033 BIOSIS <<LOGINID::20090423>>
DN PREV200300583256
TI The potential functional dualism of DMBT1: Epithelial differentiation and pathogen-binding.
AU Mollenhauer, Jan [Reprint Author]; Bikker, Floris; Helmke, Burkhard; Kollender, Gaby [Reprint Author]; Lyer, Stefan [Reprint Author]; ***Renner, Marcus*** [Reprint Author]; Ligtenberg, Antoon; Madsen, Jens;
Holmskov, Uffe; Otto, Herwart F.; Poustka, Annemarie [Reprint Author]
CS Department for Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, Germany
SO International Journal of Molecular Medicine, (2003) Vol. 12, No. Supplement 1, pp. S9. print.
Meeting Info.: 8th World Congress on Advances in Oncology and 6th International Symposium on Molecular Medicine. Crete, Greece. October 16-18, 2003.
ISSN: 1107-3756 (ISSN print).
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English
ED Entered STN: 10 Dec 2003
Last Updated on STN: 10 Dec 2003

=> e lyer stefan/au

E1 2 LYER SRIRAM S/AU
E2 1 LYER ST/AU
E3 52 --> LYER STEFAN/AU
E4 2 LYER STEPHAN/AU
E5 1 LYER SUBRAMANIAN S/AU
E6 2 LYER SUHASINI/AU
E7 2 LYER SUNIL S/AU
E8 1 LYER SURESH/AU
E9 2 LYER SURI S/AU
E10 4 LYER V/AU
E11 1 LYER V K/AU
E12 3 LYER V N/AU

=> s e2-e4 and dmbt?

L11 41 ("LYER ST"/AU OR "LYER STEFAN"/AU OR "LYER STEPHAN"/AU) AND DMBT
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PROCESSING COMPLETED FOR L11

L12 13 DUP REM L11 (28 DUPLICATES REMOVED)

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YOU HAVE REQUESTED DATA FROM 13 ANSWERS - CONTINUE? Y/(N):y

L12 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

AN 2009:402136 CAPLUS <<LOGINID::20090423>>

DN 150:327861

TI ***DMBT1*** functions as pattern-recognition molecule for
poly-sulfated and poly-phosphorylated ligands

AU End, Caroline; Bikker, Floris; Renner, Marcus; Bergmann, Gaby;

Lyer,

*** Stefan*** ; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard;
Gassler, Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner,
Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.;
Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias;
Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan
CS Division of Molecular Genome Analysis, German Cancer Research Center,
Heidelberg, Germany

SO European Journal of Immunology (2009), 39(3), 833-842

CODEN: EJIMAF; ISSN: 0014-2980

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

AB Deleted in malignant brain tumors 1 (***DMBT1***) is a secreted
glycoprotein displaying a broad bacterial-binding spectrum. Recent
functional and genetic studies linked ***DMBT1*** to the suppression
of LPS-induced TLR4-mediated NF- κ B activation and to the
pathogenesis of Crohn's disease. Here, the authors aimed at unraveling
the mol. basis of its function in mucosal protection and of its broad
pathogen-binding specificity. The authors report that ***DMBT1***
directly interacts with dextran sulfate sodium (DSS) and carrageenan, a

structurally similar sulfated polysaccharide, which is used as a texturizer and thickener in human dietary products. However, binding of ***DMBT1*** does not reduce the cytotoxic effects of these agents to intestinal/epithelial cells in vitro. DSS and carrageenan compete for ***DMBT1*** -mediated bacterial aggregation via interaction with its bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in ***Dmbt1*** -/- and ***Dmbt1*** +/- mice utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that ***DMBT1*** functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L12 ANSWER 2 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2

AN 2007:440147 BIOSIS <<LOGINID::20090423>>

DN PREV200700436905

TI Regulation of ***DMBT1*** via NOD2 and TLR4 in intestinal epithelial cells modulates bacterial recognition and invasion.

AU Rosenstiel, Philip; Sina, Christian; End, Caroline; Renner, Marcus; ***Lyer, Stefan*** ; Till, Andreas; Hellmig, Stephan; Nikolaus, Susanna; Foelsch, Ulrich R.; Helmke, Burkhard; Autschbach, Frank; Schirmacher, Peter; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan; Schreiber, Stefan [Reprint Author]

CS Univ Hosp Schleswig Holstein, Inst Clin Mol Biol, Campus Kiel, Schittenhelmstrache 12, Kiel, Germany
s.schreiber@mucosa.de

SO Journal of Immunology, (JUN 15 2007) Vol. 178, No. 12, pp. 8203-8211. CODEN: JOIMA3. ISSN: 0022-1767.

DT Article

LA English

ED Entered STN: 15 Aug 2007
Last Updated on STN: 15 Aug 2007

AB Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. Deleted in malignant brain tumors 1 (***DMBT1***) belongs to the group of secreted scavenger receptor cysteine-rich proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of ***DMBT1*** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. We report that intestinal epithelial cells up-regulate ***DMBT1*** upon proinflammatory stimuli (e.g., TNF- α , LPS). We demonstrate that ***DMBT1*** is a target gene for the intracellular pathogen receptor NOD2 via NF- κ B activation. ***DMBT1*** is strongly up-regulated in the inflamed intestinal mucosa of Crohn's disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of Salmonella enterica and LPS- and muramyl dipeptide-induced NF- κ B activation and cytokine secretion in vitro. Thus, ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn's disease.

L12 ANSWER 3 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 3

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant
is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; ***Lyer,***
*** Stefan*** ; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus;
Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum,
Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie;
Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito;
Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato,
Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer,
Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280,
D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008

Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in
the pathogenesis of Crohn's disease (CD), one of the main subtypes of
inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1 (
DMBT1) is a secreted scavenger receptor cysteine-rich protein

with

predominant expression in. the intestine and has been proposed to exert
possible functions in regenerative processes and pathogen defense. Here,
we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We
studied ***DMBT1*** expression in IBD and normal tissues by
quantitative reverse transcription-polymerase chain reaction,
immunohistochemistry, and mRNA in situ hybridization. Genetic
polymorphisms within ***DMBT1*** were analyzed in an Italian IBD
case-control sample. ***Dmbt1*** (-/-) mice were generated,
characterized, and analyzed for their susceptibility to dextran sulfate
sodium-induced colitis. Results: ***DMBT1*** levels correlate with
disease activity in inflamed IBD tissues. A highly significant fraction
of the patients with IBD displayed up-regulation of ***DMBT1***
specifically in the intestinal epithelial surface cells and Paneth cells.
A deletion allele of ***DMBT1*** with a reduced: number of scavenger
receptor cysteine-rich domain coding exons is associated with an increased
risk of CD (P =.00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced susceptibility to dextran
sulfate

sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels
during inflammation. Conclusions: ***DMBT1*** may play a role in
intestinal mucosal protection and prevention of inflammation. Impaired
DMBT1 function may contribute to the pathogenesis of CD.

L12 ANSWER 4 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 4

AN 2007:601740 BIOSIS <<LOGINID::20090423>>

DN PREV200700605050

TI ***Dmbt1*** is a target gene of NOD2/CARD15 and protects intestinal
epithelial cells from bacterial invasion.

AU Rosenstiel, Philip; Sina, Christian; Hellmig, Stephan; Nikolaus, Susanna; End, Caroline; Renner, Markus; ***Lyer, Stephan*** ; Helmke, Burkhard; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan; Schreiber, Stefan

SO Gastroenterology, (APR 2007) Vol. 132, No. 4, Suppl. 2, pp. A550.
Meeting Info.: Digestive Disease Week Meeting/108th Annual Meeting of the American-Gastroenterological-Association. Washington, DC, USA. May 19 -24, 2007. Amer Gastroenterol Assoc; Amer Assoc Study Liver Dis; Amer Soc Gastrointestinal Endoscopy; Soc Surg Alimentary Tract.
CODEN: GASTAB. ISSN: 0016-5085.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 6 Dec 2007
Last Updated on STN: 6 Dec 2007

AB Background&Aims: Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. ***DMBT1*** (deleted in malignant brain tumors 1) belongs to the group of secreted scavenger receptor cysteine-rich (SRCR) proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of ***DMBT1*** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. Methods: Expression of ***DMBT1*** was determined by Taqman real time PCR, Western blot and immunohistochemistry. Promotor studies were performed using luciferase reporter gene experiments. Bacterial invasion was tested by gentamicin protection assay and siRNA approaches. Results: We demonstrate that ***DMBT1*** is a target gene for the intracellular pathogen receptor NOD2 via NF-KB activation, ***DMBT1*** is strongly upregulated in the inflamed intestinal mucosa of Crohn disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of Salmonella enterica and LPS-induced Toll-like receptor 4 signalling. Silencing of ***DMBT1*** in intestinal epithelial cells leads to an increased invasion of bacteria. Conclusions: ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn disease.

L12 ANSWER 5 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 5

AN 2006:604365 BIOSIS <<LOGINID::20090423>>

DN PREV200600609765

TI Molecular characterization of the porcine deleted in malignant brain tumors 1 gene (***DMBT1***).

AU Haase, Bianca; Humphray, Sean J.; ***Lyer, Stefan*** ; Renner, Marcus; Poustka, Annemarie; Mollenhauer, Jan; Leeb, Tosso [Reprint Author]

CS Univ Bern, Vetsuisse Fac, Inst Genet, Bremgartenstr 109A, CH-3001 Bern, Switzerland
Tosso.Leeb@itz.unibe.ch

SO Gene (Amsterdam), (JUL 19 2006) Vol. 376, No. 2, pp. 184-191.
CODEN: GENED6. ISSN: 0378-1119.

DT Article

LA English

ED Entered STN: 15 Nov 2006
Last Updated on STN: 15 Nov 2006

AB The human gene deleted in malignant brain tumors 1 (***DMBT1***) is considered to play a role in tumorigenesis and pathogen defense. It

encodes a protein with multiple scavenger receptor cysteine-rich (SRCR) domains, which are involved in recognition and binding of a broad spectrum of bacterial pathogens. The SRCR domains are encoded by highly homologous repetitive exons, whose number in humans may vary from 8 to 13 due to genetic polymorphism. Here, we characterized the porcine ***DMBT1*** gene on the mRNA and genomic level. We assembled a 4.5 kb porcine ***DMBT1*** cDNA sequence from RT-PCR amplified seminal vesicle RNA. The porcine ***DMBT1*** cDNA contains an open reading frame of 4050 nt. The transcript gives rise to a putative polypeptide of 1349 amino acids with a calculated mass of 147.9 kDa. Compared to human ***DMBT1***, it contains only four N-terminal SRCR domains. Northern blotting revealed transcripts of similar to 4.7 kb in size in the tissues analyzed. Analysis of ESTs suggested the existence of secreted and transmembrane variants. The porcine ***DMBT1*** gene spans about 54 kb on chromosome 14q28-q29. In contrast to the characterized cDNA, the genomic BAC clone only contained 3 exons coding for N-terminal SRCR domains. In different mammalian ***DMBT1*** orthologs large interspecific differences in the number of SRCR exons and utilization of the transmembrane exon exist. Our data suggest that the porcine ***DMBT1*** gene may share with the human ***DMBT1*** gene additional intraspecific variations in the number of SRCR-coding exons.

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L12 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2005:953991 CAPLUS <<LOGINID::20090423>>
 DN 143:260332
 TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents
 IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; ***Lyer, Stefan***; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno
 PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany
 SO Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

EP 1727558 A1 20061206 EP 2005-732131 20050225
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
US 20080234185 A1 20080925 US 2006-590657 20060825
PRAI EP 2004-4281 A 20040225
WO 2005-EP1994 W 20050225
AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding
it, for the manuf. of a medicament for the treatment of a patient
suffering from a disease caused by an agent which possesses at least one
accessible sulfate and/or at least one accessible phosphate group.
DMBT1 may also be used as a diagnostic for diagnosing the
susceptibility of an individual to sulfate or phosphate groups, as well in
methods for diagnosis, prophylaxis or treatment of diseases caused by an
agent which possesses at least one accessible sulfate and/or at least one
accessible phosphate group. The invention is based on the discovery that
human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a
dual-specific pattern recognition receptor for non-self (bacterial cell
wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing
sulfated carbohydrates) and self structures (DNA, phospholipids, cell
surface and extracellular matrix carbohydrates), which interacts with
accessible sulfate and or phosphate groups, which are present on numerous
compsds., compns., and organisms. Pattern recognition of ***DMBT1***
is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate
and phosphate groups. By acting as a dual-specific PRR, ***DMBT1***
may exert a general insulator function against a broad range of pathogens,
which predicts a contribution of ***DMBT1*** germline deletions to
human susceptibility to infection, inflammation, and cancer. Furthermore,
a 40% decreased level of ***DMBT1*** in male mice correlates with an
increased susceptibility and with a deficient protection against dextran
sulfate sodium-induced tissue damage and inflammation in the colon.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
L12 ANSWER 7 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 6
AN 2005:324157 BIOSIS <<LOGINID::20090423>>
DN PREV200510117337
TI Generation of a vector system facilitating cloning of ***DMBT1***
variants and recombinant expression of functional full-length
DMBT1 .
AU End, Caroline; ***Lyer, Stefan*** ; Renner, Marcus; Stahl, Cordula;
Ditzler, Jutta; Holloschi, Andreas; Kuhn, Hella-M.; Flammann, Heiko T.;
Poustka, Annemarie; Hafner, Mathias; Mollenhauer, Jan [Reprint Author];
Kioschis, Petra
CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280,
D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de
SO Protein Expression and Purification, (JUN 2005) Vol. 41, No. 2, pp.
275-286.
CODEN: PEXPEJ. ISSN: 1046-5928.
DT Article
LA English
ED Entered STN: 25 Aug 2005
Last Updated on STN: 25 Aug 2005
AB Deleted in malignant brain tumours 1 (***DMBT1***) codes for a similar
to 340 kDa glycoprotein with highly repetitive scavenger receptor
cysteine-rich (SRCR) domains. ***DMBT1*** was implicated in cancer.

defence against viral and bacterial infections, and differentiation of epithelial cells. Recombinant expression and purification of ***DMBT1*** is an essential step for systematic standardized functional research and towards the evaluation of its therapeutical potential. So far, ***DMBT1*** is obtained from natural sources such as bronchioalveolar lavage or saliva, resulting in time consuming sample collection, low yields, and protein preparations which may substantially vary due to differential processing and genetic polymorphism, all of which impedes functional research on ***DMBT1***. Cloning of ***DMBT1*** cDNAs is hampered because of the size and the 13 highly homologous SRCR exons. In this Study, we report on the setup of a vector system that facilitates cloning of ***DMBT1*** variants. We demonstrate applicability of the vector system by expression of the largest ***DMBT1*** variant in a tetracycline-inducible mammalian expression system using the Chinese hamster ovary cell line. Yields up to 30 mg rDMBT1 per litre of cell Culture supernatant could be achieved with an optimized production procedure. By harnessing the specific bacteria-binding property of ***DMBT1*** we established an affinity purification procedure which allows the isolation of more than 3 mg rDMBT1 with a Purity of about 95 %. Although the glycosylation moieties of rDMBT1 are different from ***DMBT1*** (SAG) isolated from saliva, we demonstrate that rDMBT1 is functionally active in aggregating Gram-positive and Gram-negative bacteria and binding to C1q and lactoferrin, which represent two known endogenous ***DMBT1*** ligands.

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L12 ANSWER 8 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
 DUPLICATE 7
 AN 2005:69186 BIOSIS <<LOGINID::20090423>>
 DN PREV200500070157
 TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
 VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.
 AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; End,
 Caroline; Renner, Marcus; Blaich, Stephanie; ***Lyer, Stefan*** ;
 Wittig, Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De
 Blicq-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V.
 Nieuw; Poustka, Annemarie; Mollenhauer, Jan
 CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam,
 Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
 ajm.ligtenberg@vumc.nl
 SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp.
 47699-47703. print.
 CODEN: JBCHA3. ISSN: 0021-9258.
 DT Article
 LA English
 ED Entered STN: 16 Feb 2005
 Last Updated on STN: 16 Feb 2005
 AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group
 of metazoan proteins characterized by the presence of SRCR domains. These
 proteins are classified in group A and B based on the number of conserved
 cysteine residues in their SRCR domains, i.e. six for group A and eight
 for group B. The protein ***DMBT1*** (deleted in malignant brain
 tumors 1), which is identical to salivary agglutinin and lung gp-340,
 belongs to the group B SRCR proteins and is considered to be involved in
 tumor suppression and host defense by pathogen binding. In a previous
 study we used non-overlapping synthetic peptides covering the SRCR
 consensus sequence to identify a 16-amino acid bacteria-binding protein

loop (peptide SRCRP2; QGRVEVLYRGSWGTV) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are critical residues in this motif. Bacteria binding by ***DMBT1pbs1*** was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was critical. In addition, the homologous consensus sequences of a number of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L12 ANSWER 9 OF 13 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN
 AN 2009:102902 SCISEARCH <<LOGINID::20090423>>
 GA The Genuine Article (R) Number: V80CV
 TI THE PUTATIVE TUMOR SUPPRESSOR ***DMBT1*** CONFERS MUCOSAL PROTECTION IN VIVO AND INHIBITS BACTERIAL INFECTION IN VITRO
 AU Renner, Marcus (Reprint); Bergmann, Gaby; Krebs, Inge; ***Lyer,***
 *** Stefan***; End, Caroline; Sina, Christian; Freidekind, Olga; Poustka, Annemarie; Mollenhauer, Jan
 CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-69120 Heidelberg, Germany
 AU End, Caroline; Kioschis, Petra; Haffner, Mathias
 CS Univ Appl Sci Mannheim, Inst Mol Biol & Cell Culture Technol, D-68163 Mannheim, Germany
 AU Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank
 CS Univ Heidelberg, Inst Pathol, D-69120 Heidelberg, Germany
 AU Sina, Christian; Rosenstiel, Philip; Schreiber, Stefan
 CS Univ Hosp Schleswig Holstein, Dept Med 1, D-24105 Kiel, Germany
 AU Reinhard, Claudia; Stoeger, Tobias; Schulz, Holger
 CS Natl Ctr Environm & Hlth GmbH, Inst Inhalat Biol, D-85764 Neuherberg, Germany
 AU Hilberg, Frank
 CS Boehringer Ingelheim Austria, NCE Pharmacol, R&D Vienna, A-1121 Vienna, Austria
 CYA Germany; Austria
 SO ANTICANCER RESEARCH, (SEP-OCT 2004) Vol. 24, No. 5D, pp. 3610-3611. MA 422.
 ISSN: 0250-7005.
 PB INT INST ANTICANCER RESEARCH, EDITORIAL OFFICE 1ST KM KAPANDRITIOU-KALAMOU RD KAPANDRITI, PO BOX 22, ATHENS 19014, GREECE.
 DT Conference; Journal
 LA English
 REC Reference Count: 0
 ED Entered STN: 29 Jan 2009
 Last Updated on STN: 29 Jan 2009

L12 ANSWER 10 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 8
 AN 2004:130519 BIOSIS <<LOGINID::20090423>>
 DN PREV200400116079
 TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1*** during breast carcinogenesis.
 AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel; Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; ***Lyer, Stefan***;

Diedrichs, Laura; Renner, Marcus; Wittig, Rainer; Blaich, Stephanie; Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker, Floris; Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.; O'Malley, Bert; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de

SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194. print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 3 Mar 2004
Last Updated on STN: 3 Mar 2004

AB Deleted in malignant brain tumors 1 (*****DMBT1*****) has been proposed as a candidate tumor suppressor for brain and epithelial cancer. Initial studies suggested loss of expression rather than mutation as the predominant mode of *****DMBT1***** inactivation. However, in situ studies in lung cancer demonstrated highly sophisticated changes of *****DMBT1***** expression and localization, pointing to a chronological order of events. Here we report on the investigation of *****DMBT1***** in breast cancer in order to test whether these principles might also be attributable to other tumor types. Comprehensive mutational analyses did not uncover unambiguous inactivating *****DMBT1***** mutations in breast cancer. Expression analyses in the human and mouse mammary glands pointed to the necessity of *****DMBT1***** induction. While age-dependent and hormonal effects could be ruled out, 9 of 10 mice showed induction of *****Dmbt1***** expression after administration of the carcinogen 7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or other histopathological changes. *****DMBT1***** displayed significant up-regulation in human tumor-flanking tissues compared to in normal breast tissues ($P < 0.05$). However, the breast tumor cells displayed a switch from luminal secretion to secretion to the extracellular matrix and a significant down-regulation compared to that in matched normal flanking tissues ($P < 0.01$). We concluded that loss of expression also is the predominant mode of *****DMBT1***** inactivation in breast cancer. The dynamic behavior of *****DMBT1***** in lung carcinoma is fully reflected in breast cancer, which suggests that this behavior might be common to tumor types arising from monolayered epithelia.

L12 ANSWER 11 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN

AN 2003:584033 BIOSIS <<LOGINID::20090423>>

DN PREV200300583256

TI The potential functional dualism of *****DMBT1***** : Epithelial differentiation and pathogen-binding.

AU Mollenhauer, Jan [Reprint Author]; Bikker, Floris; Helmke, Burkhard; Kollender, Gaby [Reprint Author]; *****Lyer, Stefan***** [Reprint Author]; Renner, Marcus [Reprint Author]; Ligtenberg, Antoon; Madsen, Jens; Holmskov, Uffe; Otto, Herwart F.; Poustka, Annemarie [Reprint Author]

CS Department for Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, Germany

SO International Journal of Molecular Medicine, (2003) Vol. 12, No. Supplement 1, pp. S9. print.
Meeting Info.: 8th World Congress on Advances in Oncology and 6th International Symposium on Molecular Medicine. Crete, Greece. October 16-18, 2003.

ISSN: 1107-3756 (ISSN print).

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 10 Dec 2003
Last Updated on STN: 10 Dec 2003

L12 ANSWER 12 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 9

AN 2002:529538 BIOSIS <<LOGINID::20090423>>

DN PREV200200529538

TI The SRCR/SID region of ***DMBT1*** defines a complex multi-allele
system representing the major basis for its variability in cancer.

AU Mollenhauer, Jan [Reprint author]; Mueller, Hanna; Kollender, Gaby;
Lyer, Stefan ; Diedrichs, Laura; Helmke, Burkhard; Holmskov, Uffe;
Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Madsen, Jens; Bikker,
Floris; Schmitt, Liane; Wiemann, Stefan; Scheurlen, Wolfram; Otto, Herwart
F.; von Deimling, Andreas; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Genes Chromosomes and Cancer, (November, 2002) Vol. 35, No. 3, pp.
242-255. print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 16 Oct 2002
Last Updated on STN: 16 Oct 2002

AB Deleted in malignant brain tumors 1 (***DMBT1***) at 10q25.3-q26.1 has
been proposed as a candidate tumor-suppressor gene for brain and
epithelial cancer. ***DMBT1*** encodes a multifunctional mucin-like
protein presumably involved in epithelial differentiation and protection.
The gene consists of highly homologous and repeating exon and intron
sequences. This specifically applies to the region coding for the
repetitive scavenger receptor cysteine-rich (SRCR) domains and
SRCR-interspersed domains (SIDs) that constitutes the major part of the
gene. This particular structure may previously have interfered with the
delineation of ***DMBT1*** alterations in cancer. Uncovering these,
however, is of mechanistic importance. By a combined approach, we
conducted a detailed mutational analysis, starting from a panel of 51
tumors, including 46 tumor cell lines and five primary tumors.
Alterations in the repetitive region were present in 22/31 (71%) tumors
that were investigated in detail. Six tumors showed presumably de novo
mutations, among these three with point mutations in combination with a
loss of heterozygosity. However, none of the alterations unambiguously
would be predicted to lead to an inactivation of ***DMBT1*** . We
define seven distinct ***DMBT1*** alleles based on variable numbers of
tandem repeats (VNTRs). At least 11 tumors exclusively harbored these
VNTRs. The data suggest that the SRCR/SID region defines a complex
multi-allele system that has escaped previous analyses and that represents
the major basis for the variability of ***DMBT1*** in cancer.
DMBT1 thus compares to mucins rather than to conventional tumor
suppressors.

L12 ANSWER 13 OF 13 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 10

AN 2002:471853 BIOSIS <<LOGINID::20090423>>

DN PREV200200471853

TI Sequential changes of the ***DMBT1*** expression and location in normal lung tissue and lung carcinomas.

AU Mollenhauer, Jan [Reprint author]; Helmke, Burkhard; Mueller, Hanna; Kollender, Gaby; ***Lyer, Stefan*** ; Diedrichs, Laura; Holmskov, Uffe; Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Wiemann, Stefan; Madsen, Jens; Bikker, Floris; Schmitt, Liane; Otto, Herwart F.; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Genes Chromosomes and Cancer, (October, 2002) Vol. 35, No. 2, pp. 164-169. print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 11 Sep 2002
Last Updated on STN: 11 Sep 2002

AB Deleted in Malignant Brain Tumors 1 (***DMBT1***) at chromosome region 10q25.3-q26.1 has been proposed as a candidate tumor-suppressor gene for brain, digestive tract, and lung cancer. Recent studies on its expression in lung cancer have led to divergent results and have raised a controversial discussion. Moreover, ***DMBT1*** has been implicated with epithelial protection in the respiratory tract. We thus wondered how a loss of its expression could be related to carcinogenesis in the lung. To address these issues, we investigated the ***DMBT1*** expression and location in the normal lung and lung cancer. By reverse-transcription PCR, a down-regulation of the ***DMBT1*** expression in lung cancer cell lines is commonly detected. Immunohistochemical studies in situ demonstrate that there are also low steady-state levels of ***DMBT1*** in the normal respiratory epithelium. However, an up-regulation takes place in the tumor-flanking epithelium and upon respiratory inflammation. Lung carcinomas show increased ***DMBT1*** expression compared to that of undiseased lung tissue, but decreased ***DMBT1*** levels compared to that of tumor-flanking and inflammatory tissue. A switch from a luminal secretion to a secretion to the extracellular matrix takes place during lung carcinogenesis. Our data may resolve the controversial discussion on its expression in lung carcinomas. We hypothesize that the changes of the ***DMBT1*** expression and location do reflect a time course that may point to possible mechanisms for its role in epithelial cancer.

=> e wittig rainer/au

E1	1	WITTIG R E/AU
E2	75	WITTIG R M/AU
E3	49 -->	WITTIG RAINER/AU
E4	1	WITTIG RAINER DR/AU
E5	6	WITTIG RALF/AU
E6	1	WITTIG REINER/AU
E7	2	WITTIG REINHARD/AU
E8	2	WITTIG RICHARD/AU
E9	1	WITTIG RICHARD DIPL PHYS/AU
E10	2	WITTIG ROBERT/AU
E11	1	WITTIG ROBERT M/AU
E12	17	WITTIG ROLAND/AU

=> s e1-e4 and dmbt?

L13 14 ("WITTIG R E"/AU OR "WITTIG R M"/AU OR "WITTIG RAINER"/AU OR
"WITTIG RAINER DR"/AU) AND DMBT?

=> dup rem l13

PROCESSING COMPLETED FOR L13

L14 4 DUP REM L13 (10 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 4 ANSWERS - CONTINUE? Y/(N):y

L14 ANSWER 1 OF 4 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 1

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant
is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan;
Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank;
Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner,
Axel; Blaich, Stephanie; ***Wittig, Rainer***; Hudler, Melanie;
Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito;
Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato,
Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer,
Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280,
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j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008

Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in
the pathogenesis of Crohn's disease (CD), one of the main subtypes of
inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1(
DMBT1) is a secreted scavenger receptor cysteine-rich protein

with

predominant expression in. the intestine and has been proposed to exert
possible functions in regenerative processes and pathogen defense. Here,
we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We
studied ***DMBT1*** expression in IBD and normal tissues by
quantitative reverse transcription-polymerase chain reaction,
immunohistochemistry, and mRNA in situ hybridization. Genetic
polymorphisms within ***DMBT1*** were analyzed in an Italian IBD
case-control sample. ***Dmbt1*** (-/-) mice were generated,
characterized, and analyzed for their susceptibility to dextran sulfate
sodium-induced colitis. Results: ***DMBT1*** levels correlate with
disease activity in inflamed IBD tissues. A highly significant fraction
of the patients with IBD displayed up-regulation of ***DMBT1***
specifically in the intestinal epithelial surface cells and Paneth cells.
A deletion allele of ***DMBT1*** with a reduced: number of scavenger
receptor cysteine-rich domain coding exons is associated with an increased
risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced susceptibility to dextran

sulfate

sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels

during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L14 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2005:953991 CAPLUS <<LOGINID::20090423>>
 DN 143:260332
 TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents
 IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; ***Wittig, Rainer*** ; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno
 PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany
 SO Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		

AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group.
 DMBT1 may also be used as a diagnostic for diagnosing the susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell

surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 4 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 2
AN 2005:69186 BIOSIS <<LOGINID::20090423>>
DN PREV200500070157
TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.
AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; End,
Caroline; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; ***Wittig,***
*** Rainer*** ; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De
Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V.
Nieuw; Poustka, Annemarie; Mollenhauer, Jan
CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam,
Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl
SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp.
47699-47703. print.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
LA English
ED Entered STN: 16 Feb 2005
Last Updated on STN: 16 Feb 2005
AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group
of metazoan proteins characterized by the presence of SRCR domains. These
proteins are classified in group A and B based on the number of conserved
cysteine residues in their SRCR domains, i.e. six for group A and eight
for group B. The protein ***DMBT1*** (deleted in malignant brain
tumors 1), which is identical to salivary agglutinin and lung gp-340,
belongs to the group B SRCR proteins and is considered to be involved in
tumor suppression and host defense by pathogen binding. In a previous
study we used non-overlapping synthetic peptides covering the SRCR
consensus sequence to identify a 16-amino acid bacteria-binding protein
loop (peptide SRCRP2; QGRVEVLYRGSWGTVVC) within the SRCR domains. In this
study, using overlapping peptides, we pinpointed the minimal
bacteria-binding site on SRCRP2, and thus ***DMBT1*** , to an 11-amino
acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***
; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp
are critical residues in this motif. Bacteria binding by
DMBT1pbs1 was different from the bacteria binding by the
macrophage receptor MARCO in which an RXR motif was critical. In
addition, the homologous consensus sequences of a number of SRCR proteins
were synthesized and tested for bacteria binding. Only consensus
sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L14 ANSWER 4 OF 4 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
 DUPLICATE 3
 AN 2004:130519 BIOSIS <<LOGINID::20090423>>
 DN PREV200400116079
 TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1***
 during breast carcinogenesis.
 AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel;
 Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan;
 Diedrichs, Laura; Renner, Marcus; ***Wittig, Rainer***; Blaich,
 Stephanie; Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker, Floris;
 Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.;
 O'Malley, Bert; Poustka, Annemarie
 CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
 Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
 j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de
 SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194.
 print.
 CODEN: GCCAES. ISSN: 1045-2257.
 DT Article
 LA English
 ED Entered STN: 3 Mar 2004
 Last Updated on STN: 3 Mar 2004
 AB Deleted in malignant brain tumors 1 (***DMBT1***) has been proposed as
 a candidate tumor suppressor for brain and epithelial cancer. Initial
 studies suggested loss of expression rather than mutation as the
 predominant mode of ***DMBT1*** inactivation. However, in situ
 studies in lung cancer demonstrated highly sophisticated changes of
 DMBT1 expression and localization, pointing to a chronological
 order of events. Here we report on the investigation of ***DMBT1***
 in breast cancer in order to test whether these principles might also be
 attributable to other tumor types. Comprehensive mutational analyses did
 not uncover unambiguous inactivating ***DMBT1*** mutations in breast
 cancer. Expression analyses in the human and mouse mammary glands pointed
 to the necessity of ***DMBT1*** induction. While age-dependent and
 hormonal effects could be ruled out, 9 of 10 mice showed induction of
 Dmbt1 expression after administration of the carcinogen
 7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or
 other histopathological changes. ***DMBT1*** displayed significant
 up-regulation in human tumor-flanking tissues compared to in normal breast
 tissues (P < 0.05). However, the breast tumor cells displayed a switch
 from luminal secretion to secretion to the extracellular matrix and a
 significant down-regulation compared to that in matched normal flanking
 tissues (P < 0.01). We concluded that loss of expression also is the
 predominant mode of ***DMBT1*** inactivation in breast cancer. The
 dynamic behavior of ***DMBT1*** in lung carcinoma is fully reflected
 in breast cancer, which suggests that this behavior might be common to
 tumor types arising from monolayered epithelia.

=> e poustka annemarie/au

E1	117	POUSTKA ALBERT J/AU
E2	4	POUSTKA ANNE MARIE/AU
E3	697 -->	POUSTKA ANNEMARIE/AU
E4	2	POUSTKA ANNEMARIE DR/AU
E5	1	POUSTKA ANNEMARIE POUSTKA AND FRITZ/AU
E6	1	POUSTKA CHRISTINE KRETZ ANNEMARIE/AU
E7	325	POUSTKA F/AU

E8 1 POUSTKA F DR/AU
 E9 1 POUSTKA F J W/AU
 E10 1 POUSTKA F PROF/AU
 E11 4 POUSTKA FIRTZ/AU
 E12 9 POUSTKA FRANTISEK/AU

=> s e2-e5 and dmbt?

L15 103 ("POUSTKA ANNE MARIE"/AU OR "POUSTKA ANNEMARIE"/AU OR "POUSTKA ANNEMARIE DR"/AU OR "POUSTKA ANNEMARIE POUSTKA AND FRITZ"/AU) AND DMBT?

=> dup rem l15

PROCESSING COMPLETED FOR L15

L16 35 DUP REM L15 (68 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 35 ANSWERS - CONTINUE? Y/(N):y

L16 ANSWER 1 OF 35 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

AN 2009:402136 CAPLUS <<LOGINID::20090423>>

DN 150:327861

TI ***DMBT1*** functions as pattern-recognition molecule for poly-sulfated and poly-phosphorylated ligands

AU End, Caroline; Bikker, Floris; Renner, Marcus; Bergmann, Gaby; Lyer, Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner, Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.; Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias; Kioschis, Petra; Schreiber, Stefan; ***Poustka, Annemarie***; Mollenhauer, Jan

CS Division of Molecular Genome Analysis, German Cancer Research Center, Heidelberg, Germany

SO European Journal of Immunology (2009), 39(3), 833-842
 CODEN: EJIMAF; ISSN: 0014-2980

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

AB Deleted in malignant brain tumors 1 (***DMBT1***) is a secreted glycoprotein displaying a broad bacterial-binding spectrum. Recent functional and genetic studies linked ***DMBT1*** to the suppression of LPS-induced TLR4-mediated NF- κ B activation and to the pathogenesis of Crohn's disease. Here, the authors aimed at unraveling the mol. basis of its function in mucosal protection and of its broad pathogen-binding specificity. The authors report that ***DMBT1*** directly interacts with dextran sulfate sodium (DSS) and carrageenan, a structurally similar sulfated polysaccharide, which is used as a texturizer and thickener in human dietary products. However, binding of ***DMBT1*** does not reduce the cytotoxic effects of these agents to intestinal/epithelial cells in vitro. DSS and carrageenan compete for ***DMBT1***-mediated bacterial aggregation via interaction with its bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in ***Dmbt1***^{-/-} and ***Dmbt1***^{+/+} mice utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that ***DMBT1*** functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad

bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L16 ANSWER 2 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 2

AN 2009:132171 BIOSIS <<LOGINID::20090423>>

DN PREV200900132171

TI ***DMBT1*** expression distinguishes anorectal from cutaneous
melanoma.

AU Helmke, Burkhard Maria [Reprint Author]; Renner, Marcus; ***Poustka,***
*** Annemarie*** ; Schirmacher, Peter; Mollenhauer, Jan; Kern, Michael
Andre

CS Univ Heidelberg, Inst Pathol, Neuenheimer Feld 220-221, D-69120
Heidelberg, Germany
burkhard.helmke@elbekliniken.de

SO Histopathology (Oxford), (JAN 2009) Vol. 54, No. 2, pp. 233-240.
ISSN: 0309-0167.

DT Article

LA English

ED Entered STN: 18 Feb 2009

Last Updated on STN: 25 Feb 2009

AB Anorectal melanoma (AM) forms a rare but highly malignant subset of
mucosal melanoma with an extremely poor prognosis. Although AMs display
histological and immunohistochemical features very similar to cutaneous
melanoma (CM), no association exists either with exposure to ultraviolet
light or with melanocytic naevi. While AMs are clearly distinguished from
CM by displaying few BRAF mutations, they are commonly indistinguishable
from CM at the level of gene expression. The aim was to carry out
expression analyses of classical immunohistochemical markers and of the
protein deleted in malignant brain tumours 1 (***DMBT1***) in cases of
primary anorectal malignant melanoma and CM. Expression analyses of
classical immunohistochemical markers (S100, HMB45, Melan A and MiTF) and
of the protein ***DMBT1*** were carried out in 27 cases of primary
anorectal malignant melanoma and 26 cases of CM. All AM cases analysed
showed expression of at least three of the classical markers for melanoma.
However, immunohistochemistry showed 19 out of 27 AM to be positive for
DMBT1 , which represented a statistically significant difference

(P

= 0.0009) compared with CM (six out of 26), which more commonly are
negative for ***DMBT1*** expression. These results identify
DMBT1 as a molecular feature that may allow distinction between

AM

and CM and support the notion that AM represents an entity molecularly
distinct from CM.

L16 ANSWER 3 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 3

AN 2007:440147 BIOSIS <<LOGINID::20090423>>

DN PREV200700436905

TI Regulation of ***DMBT1*** via NOD2 and TLR4 in intestinal epithelial
cells modulates bacterial recognition and invasion.

AU Rosenstiel, Philip; Sina, Christian; End, Caroline; Renner, Marcus; Lyer,
Stefan; Till, Andreas; Hellmig, Stephan; Nikolaus, Susanna; Foelsch,
Ulrich R.; Helmke, Burkhard; Autschbach, Frank; Schirmacher, Peter;
Kioschis, Petra; Hafner, Mathias; ***Poustka, Annemarie*** ;
Mollenhauer, Jan; Schreiber, Stefan [Reprint Author]

CS Univ Hosp Schleswig Holstein, Inst Clin Mol Biol, Campus

Kiel, Schittenhelmstrache 12, Kiel, Germany
s.schreiber@mucosa.de

SO Journal of Immunology, (JUN 15 2007) Vol. 178, No. 12, pp. 8203-8211.
CODEN: JOIMA3. ISSN: 0022-1767.

DT Article
LA English
ED Entered STN: 15 Aug 2007
Last Updated on STN: 15 Aug 2007

AB Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. Deleted in malignant brain tumors 1 (***DMBT1***) belongs to the group of secreted scavenger receptor cysteine-rich proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of ***DMBT1*** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. We report that intestinal epithelial cells up-regulate ***DMBT1*** upon proinflammatory stimuli (e.g., TNF-alpha, LPS). We demonstrate that ***DMBT1*** is a target gene for the intracellular pathogen receptor NOD2 via NF-kappa B activation. ***DMBT1*** is strongly up-regulated in the inflamed intestinal mucosa of Crohn's disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of Salmonella enterica and LPS- and muramyl dipeptide-induced NF-kappa B activation and cytokine secretion in vitro. Thus, ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn's disease.

L16 ANSWER 4 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 4

AN 2007:421389 BIOSIS <<LOGINID::20090423>>
DN PREV200700416637

TI Genetic mapping in mice identifies ***DMBT1*** as a candidate modifier of mammary tumors and breast cancer risk.

AU Blackburn, Anneke C.; Hill, Linda Z.; Roberts, Amy L.; Wang, Jun; Aud, Dee; Jung, Jimmy; Nikolcheva, Tania; Allard, John; Peltz, Gary; Otis, Christopher N.; Cao, Qing J.; Ricketts, Reva St. J.; Naber, Stephen P.; Mollenhauer, Jan; ***Poustka, Annemarie*** ; Malamud, Daniel; Jerry, D. Joseph [Reprint Author]

CS Univ Massachusetts, Dept Vet and Anim Sci, Paige Lab, 161 Holdsworth Way, Amherst, MA 01003 USA
jjerry@vasci.umass.edu

SO American Journal of Pathology, (JUN 2007) Vol. 170, No. 6, pp. 2030-2041.
CODEN: AJPA44. ISSN: 0002-9440.

DT Article
LA English
ED Entered STN: 8 Aug 2007
Last Updated on STN: 8 Aug 2007

AB Low-penetrance breast cancer susceptibility alleles seem to play a significant role in breast cancer risk but are difficult to identify in human cohorts. A genetic screen of 176 N2 backcross progeny of two Trp53(+/-) strains, BALB/c and C57BL/6, which differ in their susceptibility to mammary tumors, identified a modifier of mammary tumor susceptibility in an similar to 25-Mb interval on mouse chromosome 7 (designated SuprMam1). Relative to heterozygotes, homozygosity for BALB/c alleles of SuprMam1 significantly decreased mammary tumor latency from

70.7 to 61.1 weeks and increased risk twofold ($P = 0.002$). ***Dmbt1*** (deleted in malignant brain tumors 1) was identified as a candidate modifier gene within the SuprMam1 interval because it was differentially expressed in mammary tissues from BALB/c-Trp53(+/-) and C57BL/6-Trp53(+/-) mice. ***Dmbt1*** mRNA and protein was reduced in mammary glands of the susceptible BALB/c mice. Immunohistochemical staining demonstrated that ***DMBT1*** protein expression was also significantly reduced in normal breast tissue from women with breast cancer (staining score, 1.8; $n = 46$) compared with cancer-free controls (staining score, 3.9; $n = 53$; $P < 0.0001$). These experiments demonstrate the use of Trp53(+/-) mice as a sensitized background to screen for low-penetrance modifiers of cancer. The results identify a novel mammary tumor susceptibility locus in mice and support a role for ***DMBT1*** in suppression of inammary tumors in both mice and women.

L16 ANSWER 5 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 5

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; ***Poustka, Annemarie***; Mollenhauer, Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008

Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1 (

DMBT1) is a secreted scavenger receptor cysteine-rich protein

with

predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We studied ***DMBT1*** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within ***DMBT1*** were analyzed in an Italian IBD case-control sample. ***Dmbt1*** (-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced number of scavenger

receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L16 ANSWER 6 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 6

AN 2007:411406 BIOSIS <<LOGINID::20090423>>

DN PREV200700411064

TI ***DMBT1*** is frequently downregulated in well-differentiated gastric carcinoma but more frequently upregulated across various gastric cancer types.

AU Conde, Ana R. [Reprint Author]; Martins, Ana P.; Brito, Miguel; Manuel, Armandina; Ramos, Sancia; Malta-Vacas, Joana; Renner, Marcus;

CS ***Poustka, Annemarie*** ; Mollenhauer, Jan; Monteiro, Carolino
Univ Lisbon, Fac Farm, Av Prof Gama Pinto, P-1649003 Lisbon, Portugal
arconde@ff.ul.pt

SO International Journal of Oncology, (JUN 2007) Vol. 30, No. 6, pp.
1441-1446.
ISSN: 1019-6439.

DT Article

LA English

ED Entered STN: 1 Aug 2007

Last Updated on STN: 1 Aug 2007

AB Well-differentiated gastric carcinomas are considered to represent a distinct entity emerging via specific molecular changes different from those found in other gastric carcinoma types. The gene deleted in malignant brain tumours 1 (***DMBT1***) at 10q25.3-q26.1 codes for a protein presumably involved in cell differentiation and protection and has been proposed as a candidate tumour suppressor for brain and epithelial cancer. One study reported a loss of ***DMBT1*** expression in 12.5% (5/40) of gastric cancer samples. Here, we examined in more detail ***DMBT1*** protein and mRNA expression in 78 primary gastric tumour samples and corresponding normal gastric mucosa. ***DMBT1*** was expressed in all non-tumour gastric mucosa tissues. Eleven out of 71 (15%) gastric tumours were negative for the ***DMBT1*** protein in immunohistochemical analyses. Lack of ***DMBT1*** expression was significantly more frequently found in well-differentiated gastric tumours (6/18 well-differentiated tumours vs. 5/53 other subtypes; P=0.025). Quantitative RT-PCR revealed a downregulation of the ***DMBT1*** mRNA for 8/21 (38%) cases, while the remaining 13 cases (62%) displayed a substantial upregulation. Our data suggest that a loss of ***DMBT1*** expression may preferentially take place in well-differentiated gastric carcinoma. However, an upregulation of ***DMBT1*** expression is more frequently found across all gastric cancer types.

L16 ANSWER 7 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 7

AN 2007:601740 BIOSIS <<LOGINID::20090423>>

DN PREV200700605050

TI ***Dmbt1*** is a target gene of NOD2/CARD15 and protects intestinal epithelial cells from bacterial invasion.

AU Rosenstiel, Philip; Sina, Christian; Hellmig, Stephan; Nikolaus, Susanna;

End, Caroline; Renner, Markus; Lyer, Stephan; Helmke, Burkhard; Hafner, Mathias; ***Poustka, Annemarie*** ; Mollenhauer, Jan; Schreiber, Stefan

SO Gastroenterology, (APR 2007) Vol. 132, No. 4, Suppl. 2, pp. A550.
Meeting Info.: Digestive Disease Week Meeting/108th Annual Meeting of the American-Gastroenterological-Association. Washington, DC, USA. May 19 -24, 2007. Amer Gastroenterol Assoc; Amer Assoc Study Liver Dis; Amer Soc Gastrointestinal Endoscopy; Soc Surg Alimentary Tract.
CODEN: GASTAB. ISSN: 0016-5085.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 6 Dec 2007
Last Updated on STN: 6 Dec 2007

AB Background&Aims: Mucosal epithelial cell layers are constantly exposed to a complex resident microflora. ***DMBT1*** (deleted in malignant brain tumors 1) belongs to the group of secreted scavenger receptor cysteine-rich (SRCR) proteins and is considered to be involved in host defense by pathogen binding. This report describes the regulation and function of ***DMBT1*** in intestinal epithelial cells, which form the primary immunological barrier for invading pathogens. Methods: Expression of ***DMBT1*** was determined by Taqman real time PCR, Western blot and immunohistochemistry. Promotor studies were performed using luciferase reporter gene experiments. Bacterial invasion was tested by gentamicin protection assay and siRNA approaches. Results: We demonstrate that ***DMBT1*** is a target gene for the intracellular pathogen receptor NOD2 via NF-KB activation, ***DMBT1*** is strongly upregulated in the inflamed intestinal mucosa of Crohn disease patients with wild-type, but not with mutant NOD2. We show that ***DMBT1*** inhibits cytoinvasion of Salmonella enterica and LPS-induced Toll-like receptor 4 signalling. Silencing of ***DMBT1*** in intestinal epithelial cells leads to an increased invasion of bacteria. Conclusions: ***DMBT1*** may play an important role in the first line of mucosal defense conferring immune exclusion of bacterial cell wall components. Dysregulated intestinal ***DMBT1*** expression due to mutations in the NOD2/CARD15 gene may be part of the complex pathophysiology of barrier dysfunction in Crohn disease.

L16 ANSWER 8 OF 35 MEDLINE on STN DUPLICATE 8

AN 2007767353 MEDLINE <<LOGINID::20090423>>

DN PubMed ID: 17908325

TI Deleted in Malignant Brain Tumors 1 (***DMBT1***) is present in hyaline membranes and modulates surface tension of surfactant.

AU Muller Hanna; End Caroline; Renner Marcus; Helmke Burkhard M; Gassler Nikolaus; Weiss Christel; Hartl Dominik; Griesse Matthias; Hafner Mathias; ***Poustka Annemarie*** ; Mollenhauer Jan; Poeschl Johannes

CS Division of Neonatology, Department of Pediatrics, University of Heidelberg, Im Neuenheimer Feld 153, 69120 Heidelberg, Germany..
Hanna.Mueller@med.uni-heidelberg.de

SO Respiratory research, (2007) Vol. 8, pp. 69. Electronic Publication: 2007-10-01.
Journal code: 101090633. E-ISSN: 1465-993X.
Report No.: NLM-PMC2164949.

CY England: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200801

ED Entered STN: 29 Dec 2007
Last Updated on STN: 24 Jan 2008
Entered Medline: 23 Jan 2008

AB BACKGROUND: Deleted in Malignant Brain Tumors 1 (***DMBT1***) is a secreted scavenger receptor cysteine-rich protein that binds various bacteria and is thought to participate in innate pulmonary host defense. We hypothesized that pulmonary ***DMBT1*** could contribute to respiratory distress syndrome in neonates by modulating surfactant function. METHODS: ***DMBT1*** expression was studied by immunohistochemistry and mRNA in situ hybridization in post-mortem lungs of preterm and full-term neonates with pulmonary hyaline membranes. The effect of human recombinant ***DMBT1*** on the function of bovine and porcine surfactant was measured by a capillary surfactometer. ***DMBT1*** -levels in tracheal aspirates of ventilated preterm and term infants were determined by ELISA. RESULTS: Pulmonary ***DMBT1*** was localized in hyaline membranes during respiratory distress syndrome. In vitro addition of human recombinant ***DMBT1*** to the surfactants increased surface tension in a dose-dependent manner. The ***DMBT1*** -mediated effect was reverted by the addition of calcium depending on the surfactant preparation. CONCLUSION: Our data showed pulmonary ***DMBT1*** expression in hyaline membranes during respiratory distress syndrome and demonstrated that ***DMBT1*** increases lung surface tension in vitro. This raises the possibility that ***DMBT1*** could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target molecule for therapeutic intervention in neonatal lung disease.

L16 ANSWER 9 OF 35 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2007:1398177 CAPLUS <<LOGINID::20090423>>

DN 148:446649

TI Deleted in Malignant Brain Tumors 1 (***DMBT1***) is present in hyaline membranes and modulates surface tension of surfactant

AU Mueller, Hanna; End, Caroline; Renner, Marcus; Helmke, Burkhard M.; Gassler, Nikolaus; Weiss, Christel; Hartl, Dominik; Griesse, Matthias; Hafner, Mathias; ***Poustka, Annemarie*** ; Mollenhauer, Jan; Poeschl, Johannes

CS Division of Neonatology, Department of Pediatrics, University of Heidelberg, Heidelberg, 69120, Germany

SO Respiratory Research (2007), 8(1), No pp. given

CODEN: RREEBZ; ISSN: 1465-993X

URL: <http://respiratory-research.com/content/pdf/1465-9921-8-69.pdf>

PB BioMed Central Ltd.

DT Journal; (online computer file)

LA English

AB Background: Deleted in Malignant Brain Tumors 1 (***DMBT1***) is a secreted scavenger receptor cysteine-rich protein that binds various bacteria and is thought to participate in innate pulmonary host defense. The authors hypothesized that pulmonary ***DMBT1*** could contribute to respiratory distress syndrome in neonates by modulating surfactant function. Methods: ***DMBT1*** expression was studied by immunohistochem. and mRNA in situ hybridization in post-mortem lungs of preterm and full-term neonates with pulmonary hyaline membranes. The effect of human recombinant ***DMBT1*** on the function of bovine and porcine surfactant was measured by a capillary surfactometer. ***DMBT1*** -levels in tracheal aspirates of ventilated preterm and term infants were detd. by ELISA. Results: Pulmonary ***DMBT1*** was localized in hyaline membranes during respiratory distress syndrome. In

vitro addn. of human recombinant ***DMBT1*** to the surfactants increased surface tension in a dose-dependent manner. The ***DMBT1***-mediated effect was reverted by the addn. of calcium depending on the surfactant prepn. Conclusions: The data showed pulmonary ***DMBT1*** expression in hyaline membranes during respiratory distress syndrome and demonstrated that ***DMBT1*** increases lung surface tension in vitro. This raises the possibility that ***DMBT1*** could antagonize surfactant supplementation in respiratory distress syndrome and could represent a candidate target mol. for therapeutic intervention in neonatal lung disease.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 10 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 9

AN 2006:604365 BIOSIS <<LOGINID::20090423>>

DN PREV200600609765

TI Molecular characterization of the porcine deleted in malignant brain tumors 1 gene (***DMBT1***).

AU Haase, Bianca; Humphray, Sean J.; Lyer, Stefan; Renner, Marcus;
Poustka, Annemarie ; Mollenhauer, Jan; Leeb, Tosso [Reprint

Author]

CS Univ Bern, Vetsuisse Fac, Inst Genet, Bremgartenstr 109A, CH-3001 Bern,
Switzerland
Tosso.Leeb@itz.unibe.ch

SO Gene (Amsterdam), (JUL 19 2006) Vol. 376, No. 2, pp. 184-191.
CODEN: GENED6. ISSN: 0378-1119.

DT Article

LA English

ED Entered STN: 15 Nov 2006

Last Updated on STN: 15 Nov 2006

AB The human gene deleted in malignant brain tumors 1 (***DMBT1***) is considered to play a role in tumorigenesis and pathogen defense. It encodes a protein with multiple scavenger receptor cysteine-rich (SRCR) domains, which are involved in recognition and binding of a broad spectrum of bacterial pathogens. The SRCR domains are encoded by highly homologous repetitive exons, whose number in humans may vary from 8 to 13 due to genetic polymorphism. Here, we characterized the porcine ***DMBT1*** gene on the mRNA and genomic level. We assembled a 4.5 kb porcine ***DMBT1*** cDNA sequence from RT-PCR amplified seminal vesicle RNA. The porcine ***DMBT1*** cDNA contains an open reading frame of 4050 nt. The transcript gives rise to a putative polypeptide of 1349 amino acids with a calculated mass of 147.9 kDa. Compared to human ***DMBT1***, it contains only four N-terminal SRCR domains. Northern blotting revealed transcripts of similar to 4.7 kb in size in the tissues analyzed. Analysis of ESTs suggested the existence of secreted and transmembrane variants. The porcine ***DMBT1*** gene spans about 54 kb on chromosome 14q28-q29. In contrast to the characterized cDNA, the genomic BAC clone only contained 3 exons coding for N-terminal SRCR domains. In different mammalian ***DMBT1*** orthologs large interspecific differences in the number of SRCR exons and utilization of the transmembrane exon exist. Our data suggest that the porcine ***DMBT1*** gene may share with the human ***DMBT1*** gene additional intraspecific variations in the number of SRCR-coding exons. (c) 2006 Elsevier B.V. All rights reserved.

L16 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>
 DN 143:260332
 TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups
 exposed in disease-associated agents
 IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby;
 Renner, Marcus; Lyer, Stefan; Wittig, Rainer; ***Poustka, Annemarie***
 ; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno
 PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts,
 Germany
 SO Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		

AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding
 it, for the manuf. of a medicament for the treatment of a patient
 suffering from a disease caused by an agent which possesses at least one
 accessible sulfate and/or at least one accessible phosphate group.
 DMBT1 may also be used as a diagnostic for diagnosing the
 susceptibility of an individual to sulfate or phosphate groups, as well in
 methods for diagnosis, prophylaxis or treatment of diseases caused by an
 agent which possesses at least one accessible sulfate and/or at least one
 accessible phosphate group. The invention is based on the discovery that
 human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a
 dual-specific pattern recognition receptor for non-self (bacterial cell
 wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing
 sulfated carbohydrates) and self structures (DNA, phospholipids, cell
 surface and extracellular matrix carbohydrates), which interacts with
 accessible sulfate and or phosphate groups, which are present on numerous
 compds., compns., and organisms. Pattern recognition of ***DMBT1***
 is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate
 and phosphate groups. By acting as a dual-specific PRR, ***DMBT1***
 may exert a general insulator function against a broad range of pathogens,

which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 12 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 10

AN 2005:324157 BIOSIS <<LOGINID::20090423>>

DN PREV200510117337

TI Generation of a vector system facilitating cloning of ***DMBT1***
variants and recombinant expression of functional full-length
DMBT1 .

AU End, Caroline; Lyer, Stefan; Renner, Marcus; Stahl, Cordula; Ditzer,
Jutta; Holloschi, Andreas; Kuhn, Hella-M.; Flammann, Heiko T.;
Poustka, Annemarie ; Hafner, Mathias; Mollenhauer, Jan [Reprint
Author]; Kioschis, Petra

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280,
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SO Protein Expression and Purification, (JUN 2005) Vol. 41, No. 2, pp.
275-286.

CODEN: PEXPEJ. ISSN: 1046-5928.

DT Article

LA English

ED Entered STN: 25 Aug 2005

Last Updated on STN: 25 Aug 2005

AB Deleted in malignant brain tumours 1 (***DMBT1***) codes for a similar
to 340 kDa glycoprotein with highly repetitive scavenger receptor
cysteine-rich (SRCR) domains. ***DMBT1*** was implicated in cancer.
defence against viral and bacterial infections, and differentiation of
epithelial cells. Recombinant expression and purification of
DMBT1 is an essential step for systematic standardized functional
research and towards the evaluation of its therapeutical potential. So
far, ***DMBT1*** is obtained from natural sources such as
bronchioalveolar lavage or saliva, resulting in time consuming sample
collection, low yields, and protein preparations which may substantially
vary due to differential processing and genetic polymorphism, all of which
impedes functional research on ***DMBT1*** . Cloning of ***DMBT1***
cDNAs is hampered because of the size and the 13 highly homologous SRCR
exons. In this Study, we report on the setup of a vector system that
facilitates cloning of ***DMBT1*** variants. We demonstrate
applicability of the vector system by expression of the largest
DMBT1 variant in a tetracycline-inducible mammalian expression
system using the Chinese hamster ovary cell line. Yields up to 30 mg
rDMBT1 per litre of cell Culture supernatant could be achieved with an
optimized production procedure. By harnessing the specific
bacteria-binding property of ***DMBT1*** we established an affinity
purification procedure which allows the isolation of more than 3 mg rDMBT1
with a Purity of about 95 %. Although the glycosylation moieties of
rDMBT1 are different from ***DMBT1*** (SAG) isolated from saliva, we
demonstrate that rDMBT1 is functionally active in aggregating
Gram-positive and Gram-negative bacteria and binding to Clq and
lactoferrin, which represent two known endogenous ***DMBT1*** ligands.
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L16 ANSWER 13 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 11

AN 2005:69186 BIOSIS <<LOGINID::20090423>>

DN PREV200500070157

TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.

AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; End,
Caroline; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; Wittig, Rainer;
van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De Blieck-Hogervorst,
Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V. Nieuw; ***Poustka,***
*** Annemarie*** ; Mollenhauer, Jan

CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam,
Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp.
47699-47703. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Feb 2005
Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group
of metazoan proteins characterized by the presence of SRCR domains. These
proteins are classified in group A and B based on the number of conserved
cysteine residues in their SRCR domains, i.e. six for group A and eight
for group B. The protein ***DMBT1*** (deleted in malignant brain
tumors 1), which is identical to salivary agglutinin and lung gp-340,
belongs to the group B SRCR proteins and is considered to be involved in
tumor suppression and host defense by pathogen binding. In a previous
study we used non-overlapping synthetic peptides covering the SRCR
consensus sequence to identify a 16-amino acid bacteria-binding protein
loop (peptide SRCRP2; QGRVEVLYRGSWGTVVC) within the SRCR domains. In this
study, using overlapping peptides, we pinpointed the minimal
bacteria-binding site on SRCRP2, and thus ***DMBT1*** , to an 11-amino
acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***
; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp
are critical residues in this motif. Bacteria binding by
DMBT1pbs1 was different from the bacteria binding by the
macrophage receptor MARCO in which an RXR motif was critical. In
addition, the homologous consensus sequences of a number of SRCR proteins
were synthesized and tested for bacteria binding. Only consensus
sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L16 ANSWER 14 OF 35 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on
STN

AN 2009:102902 SCISEARCH <<LOGINID::20090423>>

GA The Genuine Article (R) Number: V80CV

TI THE PUTATIVE TUMOR SUPPRESSOR ***DMBT1*** CONFERS MUCOSAL PROTECTION
IN VIVO AND INHIBITS BACTERIAL INFECTION IN VITRO

AU Renner, Marcus (Reprint); Bergmann, Gaby; Krebs, Inge; Lyer, Stefan; End,
Caroline; Sina, Christian; Freidekind, Olga; ***Poustka, Annemarie*** ;
Mollenhauer, Jan

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, D-69120 Heidelberg,
Germany

AU End, Caroline; Kioschis, Petra; Haffner, Mathias

CS Univ Appl Sci Mannheim, Inst Mol Biol & Cell Culture Technol, D-68163

Mannheim, Germany

AU Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank

CS Univ Heidelberg, Inst Pathol, D-69120 Heidelberg, Germany

AU Sina, Christian; Rosenstiel, Philip; Schreiber, Stefan

CS Univ Hosp Schleswig Holstein, Dept Med 1, D-24105 Kiel, Germany

AU Reinhard, Claudia; Stoeger, Tobias; Schulz, Holger

CS Natl Ctr Environm & Hlth GmbH, Inst Inhalat Biol, D-85764 Neuherberg, Germany

AU Hilberg, Frank

CS Boehringer Ingelheim Austria, NCE Pharmacol, R&D Vienna, A-1121 Vienna, Austria

CYA Germany; Austria

SO ANTICANCER RESEARCH, (SEP-OCT 2004) Vol. 24, No. 5D, pp. 3610-3611. MA 422.
ISSN: 0250-7005.

PB INT INST ANTICANCER RESEARCH, EDITORIAL OFFICE 1ST KM KAPANDRITIOU-KALAMOU RD KAPANDRITI, PO BOX 22, ATHENS 19014, GREECE.

DT Conference; Journal

LA English

REC Reference Count: 0

ED Entered STN: 29 Jan 2009
Last Updated on STN: 29 Jan 2009

L16 ANSWER 15 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 12

AN 2004:130519 BIOSIS <<LOGINID::20090423>>

DN PREV200400116079

TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1*** during breast carcinogenesis.

AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel; Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan; Diedrichs, Laura; Renner, Marcus; Wittig, Rainer; Blaich, Stephanie; Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker, Floris; Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.; O'Malley, Bert; ***Poustka, Annemarie***

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de

SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194. print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 3 Mar 2004
Last Updated on STN: 3 Mar 2004

AB Deleted in malignant brain tumors 1 (***DMBT1***) has been proposed as a candidate tumor suppressor for brain and epithelial cancer. Initial studies suggested loss of expression rather than mutation as the predominant mode of ***DMBT1*** inactivation. However, in situ studies in lung cancer demonstrated highly sophisticated changes of ***DMBT1*** expression and localization, pointing to a chronological order of events. Here we report on the investigation of ***DMBT1*** in breast cancer in order to test whether these principles might also be attributable to other tumor types. Comprehensive mutational analyses did not uncover unambiguous inactivating ***DMBT1*** mutations in breast cancer. Expression analyses in the human and mouse mammary glands pointed to the necessity of ***DMBT1*** induction. While age-dependent and

hormonal effects could be ruled out, 9 of 10 mice showed induction of ***Dmbt1*** expression after administration of the carcinogen 7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or other histopathological changes. ***DMBT1*** displayed significant up-regulation in human tumor-flanking tissues compared to in normal breast tissues ($P < 0.05$). However, the breast tumor cells displayed a switch from luminal secretion to secretion to the extracellular matrix and a significant down-regulation compared to that in matched normal flanking tissues ($P < 0.01$). We concluded that loss of expression also is the predominant mode of ***DMBT1*** inactivation in breast cancer. The dynamic behavior of ***DMBT1*** in lung carcinoma is fully reflected in breast cancer, which suggests that this behavior might be common to tumor types arising from monolayered epithelia.

L16 ANSWER 16 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 13
 AN 2004:221390 BIOSIS <<LOGINID::20090423>>
 DN PREV200400224388
 TI Site-characteristic expression and induction of trefoil factor family 1, 2 and 3 and malignant brain tumor-1 in normal and diseased intrahepatic bile ducts relates to biliary pathophysiology.
 AU Sasaki, Motoko; Tsuneyama, Koichi; Saito, Takahito; Kataoka, Hiroaki; Mollenhauer, Jan; ***Poustka, Annemarie*** ; Nakanuma, Yasuni [Reprint Author]
 CS Department of Human Pathology, Kanazawa University Graduate School of Medicine, Kanazawa, 920-8640, Japan
 SO Liver International, (February 2004) Vol. 24, No. 1, pp. 29-37. print. ISSN: 1478-3223 (ISSN print).
 DT Article
 LA English
 ED Entered STN: 21 Apr 2004
 Last Updated on STN: 21 Apr 2004
 AB Background/Aim: Trefoil factor family (TFF)1,2,3 are involved in a homeostasis/repair process of mucosal epithelia. In this study, the significance of TFF family and deleted in the malignant brain tumor-1 (***DMBT1***), a putative receptor of TFF2, in the intrahepatic biliary tree was investigated in normal and diseased livers. Materials and Methods: Expression of TFF1,2,3 and ***DMBT1*** were examined immunohistochemically in primary biliary cirrhosis (PBC), primary sclerosing cholangitis (PSC), chronic viral hepatitis (CVH), extrahepatic biliary obstruction (EBO), and normal livers. Results: In normal livers, TFF1,3 and ***DMBT1*** were infrequently detectable in large and rarely in small bile ducts, respectively. TFF2 was not detectable in large bile ducts. In large bile duct diseases (PSC and EBO), expression of TFF3 and ***DMBT1*** were increased. In small bile duct diseases (PBC and CVH), expression of TFF2/ ***DMBT1*** was induced in moderately to severely damaged ducts irrespective of etiology. Conclusion: The intrahepatic biliary tree shows a site-characteristic expression and induction of TFF1,2,3 and ***DMBT1*** . In large bile ducts, TFF1,3 were constitutively expressed and increased in pathologic bile ducts. In small bile ducts, TFF2/ ***DMBT1*** is induced in damaged ducts irrespective of etiologies. However, the cytoprotective/repair property of TFF2/ ***DMBT1*** may not be enough to prevent the following bile duct loss in PBC.

L16 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2004:759920 CAPLUS <<LOGINID::20090423>>

DN 141:258426
 TI ***DMBT1*** expression is down-regulated in breast cancer
 AU Braidotti, Paola; Nuciforo, Paolo G.; Mollenhauer, Jan; ***Poustka,***
 *** Annemarie*** ; Pellegrini, Caterina; Moro, Alessia; Bulfamante,
 Gaetano;
 Coggi, Guido; Bosari, Silvano; Pietra, Giuseppe G.
 CS S.Paolo Hospital and IRCCS Ospedale Maggiore, University of Milano, School
 of Medicine, Milan, 20142, Italy
 SO BMC Cancer (2004), 4, No pp. given
 CODEN: BCMACL; ISSN: 1471-2407
 URL: <http://www.biomedcentral.com/content/pdf/1471-2407-4-46.pdf>
 PB BioMed Central Ltd.
 DT Journal; (online computer file)
 LA English
 AB Background: The authors studied the expression of ***DMBT1*** (deleted
 in malignant brain tumor 1), a putative tumor suppressor gene, in normal,
 proliferative, and malignant breast epithelium and its possible relation
 to the cell cycle. Methods: Sections from 17 benign lesions and 55
 carcinomas were immunostained with anti ***DMBT1*** antibody (
 DMBTh12) and sections from 36 samples, were double-stained also
 with anti MCM5, one of the 6 pre-replicative complex proteins with cell
 proliferation-licensing functions. ***DMBT1*** gene expression at the
 mRNA level was assessed by RT-PCR in frozen tissues samples from 39
 patients. Results: Normal glands and hyperplastic epithelium in benign
 lesions displayed a luminal polarized ***DMBTh12*** immunoreactivity.
 Normal and hyperplastic epithelium adjacent to carcinomas showed a loss of
 polarization, with immunostaining present in basal and perinuclear
 cytoplasmic compartments. ***DMBT1*** protein expression was
 down-regulated in the cancerous lesions compared to the normal and/or
 hyperplastic epithelium adjacent to carcinomas (3/55 pos. carcinomas vs.
 33/42 pos. normal/hyperplastic epithelia; p = 0.0001). In 72% of cases
 RT-PCR confirmed immunohistochem. results. Most of normal and
 hyperplastic mammary cells pos. with ***DMBTh12*** were also MCM5-pos.
 Conclusions: The redistribution and up-regulation of ***DMBT1*** in
 normal and hyperplastic tissues flanking malignant tumors and its
 down-regulation in carcinomas suggests a potential role in breast cancer.
 Moreover, the concomitant expression of DMTB1 and MCM5 suggests its
 possible assocn. with the cell-cycle regulation.
 RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 18 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
 STN DUPLICATE 14
 AN 2003:400542 BIOSIS <<LOGINID::20090423>>
 DN PREV200300400542
 TI CRP-ductin, the mouse homologue of gp-340/deleted in malignant brain
 tumors 1 (***DMBT1***), binds gram-positive and gram-negative bacteria
 and interacts with lung surfactant protein D.
 AU Madsen, Jens; Tornoe, Ida; Nielsen, Ole; Lausen, Mette; Krebs, Inge;
 Mollenhauer, Jan; Kollender, Gaby; ***Poustka, Annemarie*** ; Skjodt,
 Karsten; Holmskov, Uffe [Reprint Author]
 CS Immunology and Microbiology, Institute of Medical Biology, University of
 Southern Denmark, DK-5000, Odense C, Denmark
 uholmkskov@health.sdu.dk
 SO European Journal of Immunology, (August 2003) Vol. 33, No. 8, pp.
 2327-2336. print.
 ISSN: 0014-2980 (ISSN print).

DT Article
 LA English
 ED Entered STN: 3 Sep 2003
 Last Updated on STN: 3 Sep 2003

AB CRP-ductin is a protein expressed mainly by mucosal epithelial cells in the mouse. Sequence homologies indicate that CRP-ductin is the mouse homologue of human gp-340, a glycoprotein that agglutinates microorganisms and binds the lung mucosal collectin surfactant protein-D (SP-D). Here we report that purified CRP-ductin binds human SP-D in a calcium-dependent manner and that the binding is not inhibited by maltose. The same properties have previously been observed for gp-340 binding of SP-D. CRP-ductin also showed calcium-dependent binding to both gram-positive and -negative bacteria. A polyclonal antibody raised against gp-340 reacted specifically with CRP-ductin in Western blots. Immuno-reactivity to CRP-ductin was found in the exocrine pancreas, in epithelial cells throughout the gastrointestinal tract and in the parotid ducts. A panel of RNA preparations from mouse tissues was screened for CRP-ductin and SP-D expression by reverse transcription-PCR. The pancreas was the main site of synthesis of CRP-ductin, but transcripts were also readily amplified from salivary gland, the gastrointestinal tract, liver, testis, uterus and lung. Lung was the main site of synthesis of SP-D, but transcripts were also amplified from uterus, salivary gland, thymus, thyroid gland, pancreas and testis. We conclude that CRP-ductin is the mouse homologue of human gp-340 and that its capacity to bind SP-D as well as gram-negative and gram-positive bacteria suggests a role in mucosal immune defense.

L16 ANSWER 19 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
 STN DUPLICATE 15

AN 2003:397953 BIOSIS <<LOGINID::20090423>>
 DN PREV200300397953

TI Expression of deleted in malignant brain tumor-1 (***DMBT1***)
 molecule in biliary epithelium is augmented in hepatolithiasis: Possible
 participation in lithogenesis.

AU Sasaki, Motoko; Huang, Shiu-Feng; Chen, Miin-Fu; Jan, Yi-Yin; Yeh, Ta-Sen;
 Ishikawa, Akira; Mollenhauer, Jan; ***Poustka, Annemarie*** ;
 Tsuneyama, Koichi; Nimura, Yuji; Oda, Koji; Nakanuma, Yasuni [Reprint
 Author]

CS Department of Human Pathology, Graduate School of Medicine, Kanazawa
 University, Kanazawa, 920-8640, Japan

SO Digestive Diseases and Sciences, (July 2003) Vol. 48, No. 7, pp.
 1234-1240. print.
 ISSN: 0163-2116 (ISSN print).

DT Article
 LA English
 ED Entered STN: 27 Aug 2003
 Last Updated on STN: 27 Aug 2003

AB Deleted in malignant brain tumor-1 (***DMBT1***) is a mucin-like
 molecule participating in mucosal immune defense. Given that bovine
 gallbladder mucin, which accelerates cholesterol crystallization, is a
 DMBT1 homolog, ***DMBT1*** expression was examined
 immunohistochemically in biliary epithelial cells in livers with
 hepatolithiasis (N=25), primary sclerosing cholangitis (N=7), large bile
 duct obstruction (N=12), and control normal livers (N=10). ***DMBT1***
 protein was determined in the hepatic bile samples of hepatolithiasis
 (N=12) and other hepatobiliary diseases (N=8) by immunoblot. While
 DMBT1 was faintly expressed in normal livers (20%), it was

significantly augmented in hepatolithiasis (76%) ($P < 0.05$). ***DMBT1*** was mildly expressed in primary sclerosing cholangitis and large bile duct obstruction. ***DMBT1*** protein was detected frequently in hepatic bile samples of hepatolithiasis (50%) ($P < 0.05$), but in the other bile samples. The percentage of cholesterol in intrahepatic calculi was significantly higher in the patients with ***DMBT1*** -positive bile. Augmented expression and secretion of ***DMBT1*** in intrahepatic large bile ducts in hepatolithiasis suggests its role in lithogenesis.

L16 ANSWER 20 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 16

AN 2003:247369 BIOSIS <<LOGINID::20090423>>

DN PREV200300247369

TI Frequent downregulation of ***DMBT1*** and galectin-3 in epithelial skin cancer.

AU Mollenhauer, Jan [Reprint Author]; Deichmann, Martin; Helmke, Burkhard; Mueller, Hanna; Kollender, Gaby; Holmskov, Uffe; Ligtenberg, Toon; Krebs, Inge; Wiemann, Stefan; Bantel-Schaal, Ursula; Madsen, Jens; Bikker, Floris; Klauck, Sabine M.; Otto, Herwart F.; Moldenhauer, Gerd; ***Poustka, Annemarie***

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de

SO International Journal of Cancer, (10 June 2003) Vol. 105, No. 2, pp. 149-157. print.
CODEN: IJCNW. ISSN: 0020-7136.

DT Article

LA English

ED Entered STN: 21 May 2003
Last Updated on STN: 21 May 2003

AB ***DMBT1*** and galectin-3 are potential interacting proteins with presumably complex roles in tumorigenesis. While at present a variety of mechanisms are discussed for ***DMBT1*** and its participation in cancer, galectin-3 is commonly known to exert tumor-promoting effects. However, in vitro studies in a rodent system have suggested that ***DMBT1*** /galectin-3 interaction in the ECM triggers epithelial differentiation, which would point to tumor-suppressive properties. To improve the understanding of ***DMBT1*** /galectin-3 action in cancer, we carried out studies in skin cancer of different origins. Mutational analyses of ***DMBT1*** identified a missense mutation in 1 of 13 melanoma cell lines. It led to an exchange of an evolutionary conserved proline residue for serine and located within the second CUB domain of ***DMBT1***. Immunohistochemical analyses demonstrated absence of ***DMBT1*** /galectin-3 expression from melanocytes but induction of ***DMBT1*** expression in 1 of 8 nevi and 1 of 11 melanomas and of galectin-3 expression in 3 of 8 nevi and 4 of 8 melanomas. These data suggest that ***DMBT1*** and galectin-3 are unlikely to act as classical tumor suppressors in melanomas. ***DMBT1*** and galectin-3 appear to be secreted to the ECM by epithelial cells within the epidermis and the hair follicle. Compared to the flanking normal epidermis, skin tumors of epithelial origin frequently displayed downregulation of ***DMBT1*** (18 of 19 cases) and galectin-3 (12 of 12 cases). Thus, loss of ***DMBT1*** /galectin-3 expression may play a role in the genesis of epithelial skin cancer. This would support the view that galectin-3 can exert tumor-suppressive effects in certain scenarios, and ***DMBT1*** /galectin-3-mediated differentiation represents a candidate mechanism for this effect.

L16 ANSWER 21 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN

AN 2003:584033 BIOSIS <<LOGINID::20090423>>

DN PREV200300583256

TI The potential functional dualism of ***DMBT1*** : Epithelial
differentiation and pathogen-binding.

AU Mollenhauer, Jan [Reprint Author]; Bikker, Floris; Helmke, Burkhard;
Kollender, Gaby [Reprint Author]; Lyer, Stefan [Reprint Author]; Renner,
Marcus [Reprint Author]; Ligtenberg, Antoon; Madsen, Jens; Holmskov, Uffe;
Otto, Herwart F.; ***Poustka, Annemarie*** [Reprint Author]

CS Department for Molecular Genome Analysis, Deutsches
Krebsforschungszentrum, Heidelberg, Germany

SO International Journal of Molecular Medicine, (2003) Vol. 12, No.
Supplement 1, pp. S9. print.
Meeting Info.: 8th World Congress on Advances in Oncology and 6th
International Symposium on Molecular Medicine. Crete, Greece. October
16-18, 2003.
ISSN: 1107-3756 (ISSN print).

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 10 Dec 2003
Last Updated on STN: 10 Dec 2003

L16 ANSWER 22 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 17

AN 2002:535766 BIOSIS <<LOGINID::20090423>>

DN PREV200200535766

TI Identification of the bacteria-binding peptide domain on salivary
agglutinin (gp-340/ ***DMBT1***), a member of the scavenger receptor
cysteine-rich superfamily.

AU Bikker, Floris J. [Reprint author]; Ligtenberg, Antoon J. M.; Nazmi,
Kamran; Veerman, Enno C. I.; van't Hof, Wim; Bolscher, Jan G. M.;
Poustka, Annemarie ; Amerongen, Arie V. Nieuw; Mollenhauer, Jan

CS Van der Boechorststraat 7, 1081 BT, Amsterdam, Netherlands
fj.bikker.obc.acta@med.vu.nl

SO Journal of Biological Chemistry, (August 30, 2002) Vol. 277, No. 35, pp.
32109-32115. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Oct 2002
Last Updated on STN: 16 Oct 2002

AB Salivary agglutinin is encoded by ***DMBT1*** and identical to gp-340,
a member of the scavenger receptor cysteine-rich (SRCR) superfamily.
Salivary agglutinin/DAMBT1 is known for its Streptococcus mutans
agglutinating properties. This 300-400 kDa glycoprotein is composed of
conserved peptide motifs: 14 SRCR domains that are separated by
SRCR-interspersed domains (SIDs), 2 CUB (Clr/Cls Uegf Bmp1) domains, and a
zona pellucida domain. We have searched for the peptide domains of
agglutinin/ ***DMBT1*** responsible for bacteria binding. Digestion
with endoproteinase Lys-C resulted in a protein fragment containing
exclusively SRCR and SID domains that binds to S. mutans. To define more
closely the S. mutans-binding domain, consensus-based peptides of the SRCR
domains and SIDs were designed and synthesized. Only one of the SRCR
peptides, designated SRCRP2, and none of the SID peptides bound to S.

mutans. Strikingly, this peptide was also able to induce agglutination of *S. mutans* and a number of other bacteria. The repeated presence of this peptide in the native molecule endows agglutinin/ ***DMBT1*** with a general bacterial binding feature with a multivalent character. Moreover, our studies demonstrate for the first time that the polymorphic SRCR domains of salivary agglutinin/ ***DMBT1*** mediate ligand interactions.

- L16 ANSWER 23 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 18
- AN 2002:497292 BIOSIS <<LOGINID::20090423>>
- DN PREV200200497292
- TI Rare mutations of the ***DMBT1*** gene in human astrocytic gliomas.
- AU Mueller, Wolf; Mollenhauer, Jan; Stockhammer, Florian; ***Poustka,***
*** Annemarie*** ; von Deimling, Andreas [Reprint author]
- CS Institute for Neuropathology, Charite Humboldt University, D-13353, Berlin, Germany
andreas.von_deimling@charite.de
- SO Oncogene, (29 August, 2002) Vol. 21, No. 38, pp. 5956-5959. print.
CODEN: ONCNES. ISSN: 0950-9232.
- DT Article
- LA English
- ED Entered STN: 25 Sep 2002
Last Updated on STN: 25 Sep 2002
- AB The Deleted in Malignant Brain Tumors 1 gene (***DMBT1***) has been proposed as a tumor suppressor gene candidate in human brain tumors, based on the observation of homozygous deletions affecting the ***DMBT1*** region or part of the gene. In order to support this hypothesis, we performed a mutational analysis of the entire coding region of ***DMBT1*** , employing SSCP analysis and direct DNA sequencing in a series of 79 astrocytic gliomas. Five somatic mutations were detected. Two mutations, one of which resulted in an amino acid exchange, occurred in glioblastomas. One pilocytic astrocytoma carried two missense mutations and another pilocytic astrocytoma contained a somatic mutation, not affecting the presumed protein. In addition, 21 of the 27 single nucleotide polymorphisms identified in this study have not been recognized previously. The data indicate, that small mutations are not a frequent finding in gliomas.
- L16 ANSWER 24 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 19
- AN 2003:427580 BIOSIS <<LOGINID::20090423>>
- DN PREV200300427580
- TI An integrative model on the role of ***DMBT1*** in epithelial cancer.
- AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Mueller, Hanna; Kollender, Gaby; Krebs, Inge; Wiemann, Stefan; Holmskov, Uffe; Madsen, Jens; Otto, Herwart F.; ***Poustka, Annemarie***
- CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de
- SO Cancer Detection and Prevention, (2002) Vol. 26, No. 4, pp. 266-274. print.
CODEN: CDPRD4. ISSN: 0361-090X.
- DT Article
- LA English
- ED Entered STN: 17 Sep 2003
Last Updated on STN: 17 Sep 2003

AB The gene, deleted in malignant brain tumors 1 (***DMBT1***), has been proposed to play a role in brain and epithelial cancer, but shows unusual features for a classical tumor suppressor gene. We have proposed that its presumptive dual function in protection and differentiation is of importance to understand its role in cancer. To gain insights into its role in tumorigenesis, we conducted a comprehensive study on ***DMBT1*** mutations, expression and location. Twenty-one out of 44 tumors showed variable numbers of tandem repeats (VNTRs) due to genetic polymorphism of ***DMBT1***, whereas 11 out of 44 tumors displayed presumable mutations.

However, none of the alterations would be predicted to lead to a complete inactivation of the gene. ***DMBT1*** is mucin-like and shows tissue-specific expression and secretion, pointing to a function in the protection of monolayered epithelia and to an additional function in the differentiation of multilayered epithelia. The expression patterns in carcinomas arising from the respective structures support this view. Accepting this functional dualism gives rise to an initial model on the role of ***DMBT1*** in epithelial cancer.

L16 ANSWER 25 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 20

AN 2002:529538 BIOSIS <<LOGINID::20090423>>

DN PREV200200529538

TI The SRCR/SID region of ***DMBT1*** defines a complex multi-allele system representing the major basis for its variability in cancer.

AU Mollenhauer, Jan [Reprint author]; Mueller, Hanna; Kollender, Gaby; Lyer, Stefan; Diedrichs, Laura; Helmke, Burkhard; Holmskov, Uffe; Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Madsen, Jens; Bikker, Floris; Schmitt, Liane; Wiemann, Stefan; Scheurlen, Wolfram; Otto, Herwart F.; von Deimling, Andreas; ***Poustka, Annemarie***

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
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SO Genes Chromosomes and Cancer, (November, 2002) Vol. 35, No. 3, pp. 242-255. print.

CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 16 Oct 2002

Last Updated on STN: 16 Oct 2002

AB Deleted in malignant brain tumors 1 (***DMBT1***) at 10q25.3-q26.1 has been proposed as a candidate tumor-suppressor gene for brain and epithelial cancer. ***DMBT1*** encodes a multifunctional mucin-like protein presumably involved in epithelial differentiation and protection. The gene consists of highly homologous and repeating exon and intron sequences. This specifically applies to the region coding for the repetitive scavenger receptor cysteine-rich (SRCR) domains and SRCR-interspersed domains (SIDs) that constitutes the major part of the gene. This particular structure may previously have interfered with the delineation of ***DMBT1*** alterations in cancer. Uncovering these, however, is of mechanistic importance. By a combined approach, we conducted a detailed mutational analysis, starting from a panel of 51 tumors, including 46 tumor cell lines and five primary tumors. Alterations in the repetitive region were present in 22/31 (71%) tumors that were investigated in detail. Six tumors showed presumably de novo mutations, among these three with point mutations in combination with a loss of heterozygosity. However, none of the alterations unambiguously

would be predicted to lead to an inactivation of ***DMBT1*** . We define seven distinct ***DMBT1*** alleles based on variable numbers of tandem repeats (VNTRs). At least 11 tumors exclusively harbored these VNTRs. The data suggest that the SRCR/SID region defines a complex multi-allele system that has escaped previous analyses and that represents the major basis for the variability of ***DMBT1*** in cancer.

DMBT1 thus compares to mucins rather than to conventional tumor suppressors.

L16 ANSWER 26 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 21
AN 2002:471853 BIOSIS <<LOGINID::20090423>>
DN PREV200200471853
TI Sequential changes of the ***DMBT1*** expression and location in
normal lung tissue and lung carcinomas.
AU Mollenhauer, Jan [Reprint author]; Helmke, Burkhard; Mueller, Hanna;
Kollender, Gaby; Lyer, Stefan; Diedrichs, Laura; Holmskov, Uffe;
Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Wiemann, Stefan; Madsen,
Jens; Bikker, Floris; Schmitt, Liane; Otto, Herwart F.; ***Poustka,***
*** Annemarie***
CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de
SO Genes Chromosomes and Cancer, (October, 2002) Vol. 35, No. 2, pp. 164-169.
print.
CODEN: GCCAES. ISSN: 1045-2257.
DT Article
LA English
ED Entered STN: 11 Sep 2002
Last Updated on STN: 11 Sep 2002
AB Deleted in Malignant Brain Tumors 1 (***DMBT1***) at chromosome region
10q25.3-q26.1 has been proposed as a candidate tumor-suppressor gene for
brain, digestive tract, and lung cancer. Recent studies on its expression
in lung cancer have led to divergent results and have raised a
controversial discussion. Moreover, ***DMBT1*** has been implicated
with epithelial protection in the respiratory tract. We thus wondered how
a loss of its expression could be related to carcinogenesis in the lung.
To address these issues, we investigated the ***DMBT1*** expression
and location in the normal lung and lung cancer. By reverse-transcription
PCR, a down-regulation of the ***DMBT1*** expression in lung cancer
cell lines is commonly detected. Immunohistochemical studies in situ
demonstrate that there are also low steady-state levels of ***DMBT1***
in the normal respiratory epithelium. However, an up-regulation takes
place in the tumor-flanking epithelium and upon respiratory inflammation.
Lung carcinomas show increased ***DMBT1*** expression compared to that
of undiseased lung tissue, but decreased ***DMBT1*** levels compared
to that of tumor-flanking and inflammatory tissue. A switch from a
luminal secretion to a secretion to the extracellular matrix takes place
during lung carcinogenesis. Our data may resolve the controversial
discussion on its expression in lung carcinomas. We hypothesize that the
changes of the ***DMBT1*** expression and location do reflect a time
course that may point to possible mechanisms for its role in epithelial
cancer.

L16 ANSWER 27 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN
AN 2002:584258 BIOSIS <<LOGINID::20090423>>

DN PREV200200584258
 TI ***DMBT1*** and breast cancer.
 AU Mollenhauer, Jan [Reprint author]; Helmke, Burkhard; Kollender, Gaby
 [Reprint author]; Mueller, Hanna [Reprint author]; Wiemann, Stefan
 [Reprint author]; Holmskov, Uffe; Madsen, Jens; Otto, Herwart F.; Medina,
 Daniel; O'Malley, Bert W.; ***Poustka, Annemarie*** [Reprint author]
 CS Department for Molecular Genome Analysis, Deutsches
 Krebsforschungszentrum, Heidelberg, Germany
 SO International Journal of Molecular Medicine, (2002) Vol. 10, No.
 Supplement 1, pp. S82. print.
 Meeting Info.: 7th World Congress on Advances in Oncology and the 5th
 International Symposium on Molecular Medicine. Hersonissos, Crete, Greece.
 October 10-12, 2002.
 ISSN: 1107-3756.
 DT Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 13 Nov 2002
 Last Updated on STN: 13 Nov 2002

L16 ANSWER 28 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
 STN DUPLICATE 22
 AN 2002:69136 BIOSIS <<LOGINID::20090423>>
 DN PREV200200069136
 TI Deleted in malignant brain tumors 1 is a versatile mucin-like molecule
 likely to play a differential role in digestive tract cancer.
 AU Mollenhauer, Jan; Herbertz, Stephan; Helmke, Burkhard; Kollender, Gaby;
 Krebs, Inge; Madsen, Jens; Holmskov, Uffe; Sorger, Karin; Schmitt, Liane;
 Wiemann, Stefan; Otto, Herwart F.; Groene, Hermann-Josef; ***Poustka,***
 *** Annemarie*** [Reprint author]
 CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
 Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
 SO Cancer Research, (December 15, 2001) Vol. 61, No. 24, pp. 8880-8886.
 print.
 CODEN: CNREA8. ISSN: 0008-5472.
 DT Article
 LA English
 ED Entered STN: 16 Jan 2002
 Last Updated on STN: 25 Feb 2002

AB Deleted in Malignant Brain Tumors 1 (***DMBT1***) has been proposed as
 a candidate tumor suppressor gene for brain, lung, and digestive tract
 cancer. In particular, alterations of the gene and/or a loss of
 expression have been observed in gastric, colorectal, and esophageal
 carcinomas. Initial evidence has accumulated that ***DMBT1*** may
 represent a multifunctional protein. Because the consequences of a loss
 of ***DMBT1*** function may be different depending on its original
 function in a particular tissue, we wondered if it is appropriate to
 assume a uniform role for ***DMBT1*** in digestive tract carcinomas.
 We hypothesized that a systematic characterization of ***DMBT1*** in
 the human alimentary tract would be useful to improve the understanding of
 this molecule and its role in digestive tract carcinomas. Our data
 indicate that the expression pattern and subcellular distribution of
 DMBT1 in the human alimentary tract is reminiscent of epithelial
 mucins. Bovine gallbladder mucin is identified as the ***DMBT1***
 homologue in cattle. An elaborate alternative splicing may generate a
 great variety of ***DMBT1*** isoforms. Monolayered epithelia display
 transcripts of 6 kb and larger, and generally show a luminal secretion of

DMBT1 indicating a role in mucosal protection. The esophagus is the only tissue displaying an additional smaller transcript of approx 5 kb. The stratified squamous epithelium of the esophagus is the only epithelium showing a constitutive targeting of ***DMBT1*** to the extracellular matrix (ECM) suggestive of a role in epithelial differentiation. Squamous cell carcinomas of the esophagus show an early loss of ***DMBT1*** expression. In contrast, adenocarcinomas of the esophagus commonly maintain higher ***DMBT1*** expression levels. However, presumably subsequent to a transition from the luminal secretion to a targeting to the ECM, a loss of ***DMBT1*** expression also takes place in adenocarcinomas. Regarding ***DMBT1*** as a mucin-like molecule is a new perspective that is instructive for its functions and its role in cancer. We conclude that ***DMBT1*** is likely to play a differential role in the genesis of digestive tract carcinomas. However, although ***DMBT1*** originally has divergent functions in monolayered and multilayered epithelia, carcinogenesis possibly converges in a common pathway that requires an inactivation of its functions in the ECM.

- L16 ANSWER 29 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
- AN 2001:578133 BIOSIS <<LOGINID::20090423>>
- DN PREV200100578133
- TI Mutational analysis and characterization of ***DMBT1*** : A versatile molecular fly-paper.
- AU Mollenhauer, Jan [Reprint author]; Helmke, Burkhard; Mueller, Hanna [Reprint author]; Kollender, Gaby [Reprint author]; Herbertz, Stefan [Reprint author]; Krebs, Inge [Reprint author]; Wiemann, Stefan [Reprint author]; Holmskov, Uffe; Madsen, Jens; Otto, Herwart F.; ***Poustka,***
 *** Annemarie*** [Reprint author]
- CS Department for Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
- SO International Journal of Molecular Medicine, (2001) Vol. 8, No. Supplement 1, pp. S9. print.
 Meeting Info.: 6th World Congress on Advances in Oncology, and the 4th International Symposium on Molecular Medicine. Hersonissos, Crete, Greece. October 18-20, 2001.
 ISSN: 1107-3756.
- DT Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
- LA English
- ED Entered STN: 12 Dec 2001
 Last Updated on STN: 25 Feb 2002
- L16 ANSWER 30 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 23
- AN 2000:188628 BIOSIS <<LOGINID::20090423>>
- DN PREV200000188628
- TI ***DMBT1*** encodes a protein involved in the immune defense and in epithelial differentiation and is highly unstable in cancer.
- AU Mollenhauer, Jan [Reprint author]; Herbertz, Stephan; Holmskov, Uffe; Tolnay, Markus; Krebs, Inge; Merlo, Adrian; Schroder, Henrik Daa; Maier, Daniel; Breitling, Frank; Wiemann, Stefan; Groene, Hermann-Josef;
 Poustka, Annemarie
- CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, Kst. H0600, 69120, Heidelberg, Germany
- SO Cancer Research, (March 15, 2000) Vol. 60, No. 6, pp. 1704-1710. print.

CODEN: CNREA8. ISSN: 0008-5472.

DT Article

LA English

ED Entered STN: 11 May 2000
Last Updated on STN: 4 Jan 2002

AB The gene deleted in malignant brain tumors 1 (*****DMBT1*****) has been proposed as a candidate tumor suppressor for brain, gastrointestinal, and lung cancer. It codes for a protein of unknown function belonging to the superfamily of scavenger receptor cysteine-rich proteins. We aimed at getting insights into the functions of *****DMBT1***** by expression analyses and studies with a monoclonal antibody against the protein. The *****DMBT1***** mRNA is expressed throughout the immune system, and Western blot studies demonstrated that isoforms of *****DMBT1***** are identical to the collectin-binding protein gp-340, a glycoprotein that is involved in the respiratory immune defense. Immunohistochemical analyses revealed that *****DMBT1***** is produced by both tumor-associated macrophages and tumor cells and that it is deregulated in glioblastoma multiforme in comparison to normal brain tissue. Our data further suggest that the proteins CRP-ductin and hensin, both of which have been implicated in epithelial differentiation, are the *****DMBT1***** orthologs in mice and rabbits, respectively. These findings and the spatial and temporal distribution of *****DMBT1***** in fetal and adult epithelia suggest that *****DMBT1***** further plays a role in epithelial development. Rearrangements of *****DMBT1***** were found in 16 of 18 tumor cell lines, and hemizygous deletions were observed in a subset of normal individuals, indicating that the alterations in tumors may be a result of both pre-existing deletions uncovered by a loss of heterozygosity and secondary changes acquired during tumorigenesis. Thus, *****DMBT1***** is a gene that is highly unstable in cancer and encodes for a protein with at least two different functions, one in the immune defense and a second one in epithelial differentiation.

L16 ANSWER 31 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 24

AN 2000:368358 BIOSIS <<LOGINID::20090423>>

DN PREV200000368358

TI Comprehensive allelotype and genetic analysis of 466 human nervous system tumors.

AU von Deimling, Andreas [Reprint author]; Fimmers, Rolf; Schmidt, Matthias C.; Bender, Bernhard; Fassbender, Frank; Nagel, Judith; Jahnke, Rolf; Kaskel, Peter; Duerr, Eva-Maria; Koopmann, Jens; Maintz, David; Steinbeck, Stephanie; Wick, Wolfgang; Platten, Michael; Mueller, Daniel J.; Przchora, Rene; Waha, Andreas; Bluemcke, Britta; Wellenreuther, Ruth; Meyer-Puttlitz, Birgit; Schmidt, Ortrud; Mollenhauer, Jan; *****Poustka*****
***** Annemarie*****; Stangl, Armin P.; Lenartz, Doris; von Ammon, Klaus; Henson, John W.; Schramm, Johannes; Louis, David N.; Wiestler, Otmar D.

CS Institut fuer Neuropathologie, Charite Humboldt University, Augustenburger Platz 1, Campus Virchow Klinikum, D-13353, Berlin, Germany

SO Journal of Neuropathology and Experimental Neurology, (June, 2000) Vol. 59, No. 6, pp. 544-558. print.
CODEN: JNENAD. ISSN: 0022-3069.

DT Article

LA English

ED Entered STN: 23 Aug 2000
Last Updated on STN: 8 Jan 2002

AB Brain tumors pose a particular challenge to molecular oncology. Many different tumor entities develop in the nervous system and some of them

appear to follow distinct pathogenic routes. Molecular genetic alterations have increasingly been reported in nervous system neoplasms. However, a considerable number of affected genes remain to be identified. We present here a comprehensive allelotype analysis of 466 nervous system tumors based on loss of heterozygosity (LOH) studies with 129 microsatellite markers that span the genome. Specific alterations of the EGFR, CDK4, CDKN2A, TP53, ***DMBT1***, NF2, and PTEN genes were analyzed in addition. Our data point to several novel genetic loci associated with brain tumor development, demonstrate relationships between molecular changes and histopathological features, and further expand the concept of molecular tumor variants in neuro-oncology. This catalogue may provide a valuable framework for future studies to delineate molecular pathways in many types of human central nervous system tumors.

L16 ANSWER 32 OF 35 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 1999:811566 CAPLUS <<LOGINID::20090423>>
 DN 132:45802
 TI Nonhuman mammal with inactivated or inactivatable SCUZ protein gene
 IN Mollenhauer, Jan; ***Poustka, Annemarie*** ; Krebs, Inge
 PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts,
 Germany
 SO Ger., 14 pp.
 CODEN: GWXXAW
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19829660	C1	19991223	DE 1998-19829660	19980702
	WO 2000001814	A2	20000113	WO 1999-DE2055	19990630
	WO 2000001814	A3	20000420		
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	AU 9958478	A	20000124	AU 1999-58478	19990630
PRAI	DE 1998-19829660	A	19980702		
	WO 1999-DE2055	W	19990630		

AB The title transgenic mammal is disclosed. SCUZ proteins contain an SRCR (scavenger receptor cysteine-rich) domain and protein interaction domains CUB and ZP. The gene may be the ***DMBT1*** gene, or may encode CRP ductin or ebnerin. These transgenic mammals may be used to screen for carcinoma inhibitors. Thus, a transgenic mouse contg. a Cre recombinase-inactivatable CRP ductin gene was created.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 33 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
 AN 1999:468769 BIOSIS <<LOGINID::20090423>>
 DN PREV199900468769
 TI Cloning of gp-340, a putative opsonin receptor for lung surfactant protein D.
 DUPLICATE 25

AU Holmskov, Uffe [Reprint author]; Mollenhauer, Jan; Madsen, Jens; Vitved, Lars; Gronlund, Jorn; Tornoe, Ida; Kliem, Anette; Reid, Kenneth B. M.; ***Poustka, Annemarie*** ; Skjodt, Karsten

CS Department of Immunology and Microbiology, Institute of Medical Biology, University of Southern Denmark, Winslowparken 19.1, DK-5000, Odense, Denmark

SO Proceedings of the National Academy of Sciences of the United States of America, (Sept. 14, 1999) Vol. 96, No. 19, pp. 10794-10799. print. CODEN: PNASA6. ISSN: 0027-8424.

DT Article

LA English

ED Entered STN: 9 Nov 1999
Last Updated on STN: 9 Nov 1999

AB Surfactant protein D (SP-D) is an oligomeric C type lectin that promotes phagocytosis by binding to microbial surface carbohydrates. A 340-kDa glycoprotein (gp-340) has been shown to bind SP-D in the presence of calcium but does so independently of carbohydrate recognition. This protein exists both in a soluble form and in association with the membranes of alveolar macrophages. The primary structure of gp-340 has been established by molecular cloning, which yielded a 7,686-bp cDNA sequence encoding a polypeptide chain of 2,413 amino acids. The domain organization features 13 scavenger receptor cysteine-rich (SRCR) domains, each separated by an SRCR-interspersed domain, except for SRCRs 4 and 5, which are contiguous. The 13 SRCR domains are followed by two C1r/C1s Uegf Bmp1 domains separated by a 14th SRCR domain and a zona pellucida domain. gp-340 seems to be an alternative spliced form of ***DMBT1***. Reverse transcription-PCR analysis showed that the main sites of synthesis of gp-340 are lung, trachea, salivary gland, small intestine, and stomach. Immunohistochemistry revealed strong staining for gp-340 in alveolar and other tissue macrophages. Immunostaining of the macrophage membrane was either uniform or focal in a way that suggested capping, whereas other macrophages showed strong intracellular staining within the phagosome/phagolysosome compartments. In some macrophages, SP-D and gp-340 were located in the same cellular compartment. Immunoreactive gp-340 was also found in epithelial cells of the small intestine and in the ducts of salivary glands. The distribution of gp-340 in macrophages is compatible with a role as an opsonin receptor for SP-D.

L16 ANSWER 34 OF 35 CAPLUS COPYRIGHT 2009 ACS on STN

AN 1998:493676 CAPLUS <<LOGINID::20090423>>

DN 129:120695

OREF 129:24702a

TI A protein containing a scavenger receptor cytosine-rich domain of human fetal lung and a cDNA encoding it

IN Mollenhauer, Jan; ***Poustka, Annemarie***

PA Deutsches Krebsforschungszentrum Stiftung des Offentlichen Rechts, Germany; Mollenhauer, Jan; Poustka, Annemarie

SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9830687	A2	19980716	WO 1998-DE96	19980109
	WO 9830687	A3	19980911		
	W:	JP, US			

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

DE 19730997	C1	19980924	DE 1997-19730997	19970718
EP 1015583	A2	20000705	EP 1998-905246	19980109
EP 1015583	B1	20051019		

R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE

JP 2001509667	T	20010724	JP 1998-530469	19980109
AT 307201	T	20051115	AT 1998-905246	19980109
US 6346606	B1	20020212	US 1999-341587	19990831

PRAI DE 1997-19700519 A 19970109
DE 1997-19730997 A 19970718
WO 1998-DE96 W 19980109

AB A protein contg. a scavenger receptor cytosine-rich domain is identified in human fetal lung and a cDNA encoding it is cloned. The cDNA was cloned from a human fetal lung library by PCR. A partial cDNA was obtained by PCR using primers recognizing SRCR and CUB1 domain coding sequences. The gene shows deletions in brain tumors.

L16 ANSWER 35 OF 35 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 26

AN 1997:439001 BIOSIS <<LOGINID::20090423>>
DN PREV199799738204
TI ***DMBT1*** , a new member of the SRCR superfamily, on chromosome
10q25.3-26.1 is deleted in malignant brain tumours.
AU Mollenhauer, Jan; Wiemann, Stefan; Scheurlen, Wolfram; Korn, Bernhard;
Hayashi, Yutaka; Wilgenbug, Klaus K.; Von Deimling, Andreas;
Poustka,
*** Annemarie*** [Reprint author]
CS Div. Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im
Neuenheimer Feld 280, D-69120 Heidelberg, Germany
SO Nature Genetics, (1997) Vol. 17, No. 1, pp. 32-39.
ISSN: 1061-4036.
DT Article
LA English
ED Entered STN: 8 Oct 1997
Last Updated on STN: 8 Oct 1997
AB Loss of sequences from human chromosome 10q has been associated with the
progression of human cancer. Medulloblastoma and glioblastoma multiforme
are the most common malignant brain tumours in children and adults,
respectively. In glioblastoma multiforme, the most aggressive form, 80%
of the tumours show loss of 10q. We have used representational difference
analysis to identify a homozygous deletion at 10q25.3-26.1 in a
medulloblastoma cell line and have cloned a novel gene, ***DMBT1*** ,
spanning this deletion. ***DMBT1*** shows homology to the scavenger
receptor cysteine-rich (SRCR) superfamily. Intragenic homozygous
deletions have been detected in 2/20 medulloblastomas and in 9/39
glioblastomas multiformes. Lack of ***DMBT1*** expression has been
demonstrated in 4/5 brain-tumour cell lines. We suggest that
DMBT1 is a putative tumour-suppressor gene implicated in the
carcinogenesis of medulloblastoma and glioblastoma multiforme.

=> e bikker floris/au

E1	6	BIKKER F/AU
E2	21	BIKKER F J/AU
E3	26 -->	BIKKER FLORIS/AU
E4	36	BIKKER FLORIS J/AU
E5	10	BIKKER G/AU

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E6          98      BIKKER H/AU
E7           1      BIKKER H DR/AU
E8           1      BIKKER HEINE/AU
E9           2      BIKKER HENNI/AU
E10          37      BIKKER HENNIE/AU
E11           2      BIKKER HENNIE DR/AU
E12           3      BIKKER IDO G/AU

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=> s e1-e4 and dmbt?

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L17          63      ("BIKKER F"/AU OR "BIKKER F J"/AU OR "BIKKER FLORIS"/AU OR "BIKKER FLORIS J"/AU) AND DMBT?

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=> dup rem l17

PROCESSING COMPLETED FOR L17

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L18          15      DUP REM L17 (48 DUPLICATES REMOVED)

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=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 15 ANSWERS - CONTINUE? Y/(N):y

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L18  ANSWER 1 OF 15  CAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 1

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AN   2009:402136  CAPLUS <<LOGINID::20090423>>

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DN   150:327861

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TI   ***DMBT1***  functions as pattern-recognition molecule for
poly-sulfated and poly-phosphorylated ligands

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AU   End, Caroline;  ***Bikker, Floris*** ; Renner, Marcus; Bergmann, Gaby;
Lyer, Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard;
Gassler, Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner,
Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.;
Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias;
Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan
CS   Division of Molecular Genome Analysis, German Cancer Research Center,
Heidelberg, Germany

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SO   European Journal of Immunology (2009), 39(3), 833-842
CODEN: EJIMAF; ISSN: 0014-2980

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PB   Wiley-VCH Verlag GmbH & Co. KGaA

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DT   Journal

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LA   English

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AB   Deleted in malignant brain tumors 1 ( ***DMBT1*** ) is a secreted
glycoprotein displaying a broad bacterial-binding spectrum. Recent
functional and genetic studies linked ***DMBT1*** to the suppression
of LPS-induced TLR4-mediated NF- $\kappa$ B activation and to the
pathogenesis of Crohn's disease. Here, the authors aimed at unraveling
the mol. basis of its function in mucosal protection and of its broad
pathogen-binding specificity. The authors report that ***DMBT1***
directly interacts with dextran sulfate sodium (DSS) and carrageenan, a
structurally similar sulfated polysaccharide, which is used as a
texturizer and thickener in human dietary products. However, binding of
***DMBT1*** does not reduce the cytotoxic effects of these agents to
intestinal/epithelial cells in vitro. DSS and carrageenan compete for
***DMBT1*** -mediated bacterial aggregation via interaction with its
bacterial-recognition motif. Competition and ELISA studies identify
poly-sulfated and poly-phosphorylated structures as ligands for this
recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid.
Dose-response studies in ***Dmbt1*** -/- and ***Dmbt1*** +/- mice
utilizing the DSS-induced colitis model demonstrate a differential
response only to low but not to high DSS doses. The authors propose that
***DMBT1*** functions as pattern-recognition mol. for poly-sulfated and

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poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L18 ANSWER 2 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 2

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; ***Bikker, Floris*** ; Strobil-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008

Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1(***DMBT1***) is a secreted scavenger receptor cysteine-rich protein

with

predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We studied ***DMBT1*** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within ***DMBT1*** were analyzed in an Italian IBD case-control sample. ***Dmbt1*** (-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced susceptibility to dextran sulfate

sodium-induced colitis and elevated Tnf, IL6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L18 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>

DN 143:260332
 TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents
 IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; ***Bikker, Floris*** ; Ligtenberg, Anton; Nieuw-Amerongen, Arie;

Veerman,

Enno

PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany

SO Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		

AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group.
 DMBT1 may also be used as a diagnostic for diagnosing the susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1***

may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 3

AN 2005:69186 BIOSIS <<LOGINID::20090423>>

DN PREV200500070157

TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.

AU ***Bikker, Floris J.*** ; Ligtenberg, Antoon J. M. [Reprint Author];
End, Caroline; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; Wittig,
Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De
Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V.
Nieuw; Poustka, Annemarie; Mollenhauer, Jan

CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam,
Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp.
47699-47703. print.

CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Feb 2005

Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group of metazoan proteins characterized by the presence of SRCR domains. These proteins are classified in group A and B based on the number of conserved cysteine residues in their SRCR domains, i.e. six for group A and eight for group B. The protein ***DMBT1*** (deleted in malignant brain tumors 1), which is identical to salivary agglutinin and lung gp-340, belongs to the group B SRCR proteins and is considered to be involved in tumor suppression and host defense by pathogen binding. In a previous study we used non-overlapping synthetic peptides covering the SRCR consensus sequence to identify a 16-amino acid bacteria-binding protein loop (peptide SRCRP2; QGRVEVLYRGSWGTVVC) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are critical residues in this motif. Bacteria binding by ***DMBT1pbs1*** was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was critical. In addition, the homologous consensus sequences of a number of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L18 ANSWER 5 OF 15 MEDLINE on STN

AN 2004474758 MEDLINE <<LOGINID::20090423>>

DN PubMed ID: 15385529

TI A peptide domain of bovine milk lactoferrin inhibits the interaction
between streptococcal surface protein antigen and a salivary agglutinin

peptide domain.

AU Oho Takahiko; ***Bikker Floris J*** ; Nieuw Amerongen Arie V; Groenink Jasper

CS Department of Preventive Dentistry, Kyushu University Faculty of Dental Sciences, Fukuoka, Japan.. oho@denta.hal.kagoshima-u.ac.jp

SO Infection and immunity, (2004 Oct) Vol. 72, No. 10, pp. 6181-4.
Journal code: 0246127. ISSN: 0019-9567.
Report No.: NLM-PMC517587.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200410

ED Entered STN: 24 Sep 2004
Last Updated on STN: 26 Oct 2004
Entered Medline: 25 Oct 2004

AB The peptide domain of salivary agglutinin responsible for its interaction with cell surface protein antigen (Pac) of Streptococcus mutans or bovine lactoferrin was found in the same peptide, scavenger receptor cysteine-rich domain peptide 2 (SRCRP2). Inhibition studies suggest that Pac and lactoferrin, of which residues 480 to 492 seem important, competitively bind to the SRCRP2 domain of salivary agglutinin.

L18 ANSWER 6 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 4

AN 2005:133815 BIOSIS <<LOGINID::20090423>>

DN PREV200500138844

TI Salivary agglutinin/ ***DMBT1SAG*** expression is up-regulated in the presence of salivary gland tumors.

AU ***Bikker, F. J.*** ; van der Wal, J. E.; Ligtenberg, A. J. M. [Reprint Author]; Mollenhauer, J.; de Bleeck-Hogervorst, J. M. A.; van der Waal, I.; Poustka, A.; Amerongen, A. V. Nieuw

CS Dept Dent Basic Sci, Acad Ctr Dent Amsterdam, Van der Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Journal of Dental Research, (July 2004) Vol. 83, No. 7, pp. 567-571.
print.
CODEN: JDREAF. ISSN: 0022-0345.

DT Article

LA English

ED Entered STN: 6 Apr 2005
Last Updated on STN: 6 Apr 2005

AB Salivary agglutinin (SAG) is encoded by the gene Deleted in Malignant Brain Tumors 1 (***DMBT1***) and represents the salivary variant of ***DMBT1*** (***DMBT1SAG***). While SAG is a bona fide anti-caries factor, ***DMBT1*** was proposed as a candidate tumor-suppressor for brain, digestive tract, and lung cancer. Though ***DMBT1SAG*** is expressed in the salivary glands, its expression in salivary gland tumors is unknown. Here we analyzed ***DMBT1SAG*** expression in 20 salivary gland tumors and 14 tumor-flanking tissues by immunohistochemistry. ***DMBT1SAG*** in salivary gland tumors resembles the changes of expression levels known from ***DMBT1*** in tumors in other cancer types. Particularly, ***DMBT1SAG*** was up-regulated in 10/14 tumor-flanking tissues, and a strong staining of the luminal content in the tumor and/or the tumor-flanking tissue was observed in 14/20 cases. This suggests that, in addition to its role in caries defense, SAG may

serve as a potential tumor indicator and/or tumor suppressor in salivary gland tissue.

L18 ANSWER 7 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 5

AN 2004:130519 BIOSIS <<LOGINID::20090423>>

DN PREV200400116079

TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1***
during breast carcinogenesis.

AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel;
Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan;
Diedrichs, Laura; Renner, Marcus; Wittig, Rainer; Blaich, Stephanie;
Hamann, Ute; Madsen, Jens; Holmskov, Uffe; ***Bikker, Floris*** ;
Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart F.;
O'Malley, Bert; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany

SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194.
print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 3 Mar 2004

Last Updated on STN: 3 Mar 2004

AB Deleted in malignant brain tumors 1 (***DMBT1***) has been proposed as
a candidate tumor suppressor for brain and epithelial cancer. Initial
studies suggested loss of expression rather than mutation as the
predominant mode of ***DMBT1*** inactivation. However, in situ
studies in lung cancer demonstrated highly sophisticated changes of
DMBT1 expression and localization, pointing to a chronological
order of events. Here we report on the investigation of ***DMBT1***
in breast cancer in order to test whether these principles might also be
attributable to other tumor types. Comprehensive mutational analyses did
not uncover unambiguous inactivating ***DMBT1*** mutations in breast
cancer. Expression analyses in the human and mouse mammary glands pointed
to the necessity of ***DMBT1*** induction. While age-dependent and
hormonal effects could be ruled out, 9 of 10 mice showed induction of
Dmbt1 expression after administration of the carcinogen
7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or
other histopathological changes. ***DMBT1*** displayed significant
up-regulation in human tumor-flanking tissues compared to in normal breast
tissues (P < 0.05). However, the breast tumor cells displayed a switch
from luminal secretion to secretion to the extracellular matrix and a
significant down-regulation compared to that in matched normal flanking
tissues (P < 0.01). We concluded that loss of expression also is the
predominant mode of ***DMBT1*** inactivation in breast cancer. The
dynamic behavior of ***DMBT1*** in lung carcinoma is fully reflected
in breast cancer, which suggests that this behavior might be common to
tumor types arising from monolayered epithelia.

L18 ANSWER 8 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 6

AN 2005:35700 BIOSIS <<LOGINID::20090423>>

DN PREV200500033927

TI Binding of salivary agglutinin to IgA.

AU Ligtenberg, Antoon J. M. [Reprint Author]; ***Bikker, Floris J.*** ; De

Blieck-Hogervorst, Jolanda M. A.; Veerman, Enno C. I.; Amerongen, Arie V. Nieuw

CS Fac MedDept Dent Basic SciSect Oral Biochem, Acad Ctr Dent, Free Univ Amsterdam, Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Biochemical Journal, (October 1 2004) Vol. 383, No. Part 1, pp. 159-164. print.
ISSN: 0264-6021.

DT Article

LA English

ED Entered STN: 19 Jan 2005
Last Updated on STN: 19 Jan 2005

AB SAG (salivary agglutinin), which is identical to gp-340 (glycoprotein-340) from the lung, is encoded by ***DMBTI*** (deleted in malignant brain tumours 1). It is a member of the SRCR (scavenger receptor cysteine-rich) superfamily and contains 14 SRCR domains, 13 of which are highly similar. SAG in saliva is partially complexed with IgA, which may be necessary for bacterial binding. The goal of the present study was to characterize the binding of purified SAG to IgA. SAG binds to a variety of proteins, including serum and secretory IgA, alkaline phosphatase-conjugated IgGs originating from rabbit, goat, swine and mouse, and lactoferrin and albumin. Binding of IgA to SAG is calcium dependent and is inhibited by 0.5 M KCl, suggesting that electrostatic interactions are involved. Binding of IgA was destroyed after reduction of SAG, suggesting that the protein moiety is involved in binding. To pinpoint further the binding domain for IgA on SAG, a number of consensus-based peptides of the SRCR domains and SRCR interspersed domains were designed and synthesized. ELISA binding studies with IgA indicated that only one of the peptides tested, comprising amino acids 18-33 (QGRVEVLYRGSWGTVVC) of the 109-amino-acid SRCR domain, exhibited binding to IgA. This domain is identical to the domain of SAG that is involved in binding to bacteria. Despite this similar binding site, IgA did not inhibit binding of Streptococcus mutans to SAG or peptide. These results show that the binding of IgA to SAG is specifically mediated by a peptide sequence on the SRCR domains.

L18 ANSWER 9 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 7

AN 2003:247369 BIOSIS <<LOGINID::20090423>>

DN PREV200300247369

TI Frequent downregulation of ***DMBT1*** and galectin-3 in epithelial skin cancer.

AU Mollenhauer, Jan [Reprint Author]; Deichmann, Martin; Helmke, Burkhard; Mueller, Hanna; Kollender, Gaby; Holmskov, Uffe; Ligtenberg, Toon; Krebs, Inge; Wiemann, Stefan; Bantel-Schaal, Ursula; Madsen, Jens; ***Bikker,***
*** Floris*** ; Klauck, Sabine M.; Otto, Herwart F.; Moldenhauer, Gerd; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz.de

SO International Journal of Cancer, (10 June 2003) Vol. 105, No. 2, pp. 149-157. print.
CODEN: IJCNAW. ISSN: 0020-7136.

DT Article

LA English

ED Entered STN: 21 May 2003
Last Updated on STN: 21 May 2003

AB ***DMBT1*** and galectin-3 are potential interacting proteins with presumably complex roles in tumorigenesis. While at present a variety of mechanisms are discussed for ***DMBT1*** and its participation in cancer, galectin-3 is commonly known to exert tumor-promoting effects. However, in vitro studies in a rodent system have suggested that ***DMBT1*** /galectin-3 interaction in the ECM triggers epithelial differentiation, which would point to tumor-suppressive properties. To improve the understanding of ***DMBT1*** /galectin-3 action in cancer, we carried out studies in skin cancer of different origins. Mutational analyses of ***DMBT1*** identified a missense mutation in 1 of 13 melanoma cell lines. It led to an exchange of an evolutionary conserved proline residue for serine and located within the second CUB domain of ***DMBT1***. Immunohistochemical analyses demonstrated absence of ***DMBT1*** /galectin-3 expression from melanocytes but induction of ***DMBT1*** expression in 1 of 8 nevi and 1 of 11 melanomas and of galectin-3 expression in 3 of 8 nevi and 4 of 8 melanomas. These data suggest that ***DMBT1*** and galectin-3 are unlikely to act as classical tumor suppressors in melanomas. ***DMBT1*** and galectin-3 appear to be secreted to the ECM by epithelial cells within the epidermis and the hair follicle. Compared to the flanking normal epidermis, skin tumors of epithelial origin frequently displayed downregulation of ***DMBT1*** (18 of 19 cases) and galectin-3 (12 of 12 cases). Thus, loss of ***DMBT1*** /galectin-3 expression may play a role in the genesis of epithelial skin cancer. This would support the view that galectin-3 can exert tumor-suppressive effects in certain scenarios, and ***DMBT1*** /galectin-3-mediated differentiation represents a candidate mechanism for this effect.

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L18 ANSWER 11 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 8
AN 2002:535766 BIOSIS <<LOGINID::20090423>>
DN PREV200200535766
TI Identification of the bacteria-binding peptide domain on salivary
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agglutinin (gp-340/ *****DMBT1*****), a member of the scavenger receptor cysteine-rich superfamily.

AU *****Bikker, Floris J.***** [Reprint author]; Ligtenberg, Antoon J. M.; Nazmi, Kamran; Veerman, Enno C. I.; van't Hof, Wim; Bolscher, Jan G. M.; Poustka, Annemarie; Amerongen, Arie V. Nieuw; Mollenhauer, Jan

CS Van der Boechorststraat 7, 1081 BT, Amsterdam, Netherlands
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SO Journal of Biological Chemistry, (August 30, 2002) Vol. 277, No. 35, pp. 32109-32115. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Oct 2002
Last Updated on STN: 16 Oct 2002

AB Salivary agglutinin is encoded by *****DMBT1***** and identical to gp-340, a member of the scavenger receptor cysteine-rich (SRCR) superfamily. Salivary agglutinin/DAMBT1 is known for its Streptococcus mutans agglutinating properties. This 300-400 kDa glycoprotein is composed of conserved peptide motifs: 14 SRCR domains that are separated by SRCR-interspersed domains (SIDs), 2 CUB (Clr/Cls Uegf Bmp1) domains, and a zona pellucida domain. We have searched for the peptide domains of agglutinin/ *****DMBT1***** responsible for bacteria binding. Digestion with endoprotease Lys-C resulted in a protein fragment containing exclusively SRCR and SID domains that binds to S. mutans. To define more closely the S. mutans-binding domain, consensus-based peptides of the SRCR domains and SIDs were designed and synthesized. Only one of the SRCR peptides, designated SRCRP2, and none of the SID peptides bound to S. mutans. Strikingly, this peptide was also able to induce agglutination of S. mutans and a number of other bacteria. The repeated presence of this peptide in the native molecule endows agglutinin/ *****DMBT1***** with a general bacterial binding feature with a multivalent character. Moreover, our studies demonstrate for the first time that the polymorphic SRCR domains of salivary agglutinin/ *****DMBT1***** mediate ligand interactions.

L18 ANSWER 12 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 9

AN 2002:529538 BIOSIS <<LOGINID::20090423>>

DN PREV200200529538

TI The SRCR/SID region of *****DMBT1***** defines a complex multi-allele system representing the major basis for its variability in cancer.

AU Mollenhauer, Jan [Reprint author]; Mueller, Hanna; Kollender, Gaby; Lyer, Stefan; Diedrichs, Laura; Helmke, Burkhard; Holmskov, Uffe; Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Madsen, Jens; *****Bikker, Floris*****; Schmitt, Liane; Wiemann, Stefan; Scheurlen, Wolfram; Otto, Herwart F.; von Deimling, Andreas; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
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SO Genes Chromosomes and Cancer, (November, 2002) Vol. 35, No. 3, pp. 242-255. print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 16 Oct 2002
Last Updated on STN: 16 Oct 2002

AB Deleted in malignant brain tumors 1 (*****DMBT1*****) at 10q25.3-q26.1 has

been proposed as a candidate tumor-suppressor gene for brain and epithelial cancer. ***DMBT1*** encodes a multifunctional mucin-like protein presumably involved in epithelial differentiation and protection. The gene consists of highly homologous and repeating exon and intron sequences. This specifically applies to the region coding for the repetitive scavenger receptor cysteine-rich (SRCR) domains and SRCR-interspersed domains (SIDs) that constitutes the major part of the gene. This particular structure may previously have interfered with the delineation of ***DMBT1*** alterations in cancer. Uncovering these, however, is of mechanistic importance. By a combined approach, we conducted a detailed mutational analysis, starting from a panel of 51 tumors, including 46 tumor cell lines and five primary tumors. Alterations in the repetitive region were present in 22/31 (71%) tumors that were investigated in detail. Six tumors showed presumably de novo mutations, among these three with point mutations in combination with a loss of heterozygosity. However, none of the alterations unambiguously would be predicted to lead to an inactivation of ***DMBT1***. We define seven distinct ***DMBT1*** alleles based on variable numbers of tandem repeats (VNTRs). At least 11 tumors exclusively harbored these VNTRs. The data suggest that the SRCR/SID region defines a complex multi-allele system that has escaped previous analyses and that represents the major basis for the variability of ***DMBT1*** in cancer. ***DMBT1*** thus compares to mucins rather than to conventional tumor suppressors.

L18 ANSWER 13 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 10

AN 2002:471853 BIOSIS <<LOGINID::20090423>>

DN PREV200200471853

TI Sequential changes of the ***DMBT1*** expression and location in
normal lung tissue and lung carcinomas.

AU Mollenhauer, Jan [Reprint author]; Helmke, Burkhard; Mueller, Hanna;
Kollender, Gaby; Lyer, Stefan; Diedrichs, Laura; Holmskov, Uffe;
Ligtenberg, Toon; Herbertz, Stephan; Krebs, Inge; Wiemann, Stefan; Madsen,
Jens; ***Bikker, Floris*** ; Schmitt, Liane; Otto, Herwart F.; Poustka,
Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
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SO Genes Chromosomes and Cancer, (October, 2002) Vol. 35, No. 2, pp. 164-169.
print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 11 Sep 2002
Last Updated on STN: 11 Sep 2002

AB Deleted in Malignant Brain Tumors 1 (***DMBT1***) at chromosome region
10q25.3-q26.1 has been proposed as a candidate tumor-suppressor gene for
brain, digestive tract, and lung cancer. Recent studies on its expression
in lung cancer have led to divergent results and have raised a
controversial discussion. Moreover, ***DMBT1*** has been implicated
with epithelial protection in the respiratory tract. We thus wondered how
a loss of its expression could be related to carcinogenesis in the lung.
To address these issues, we investigated the ***DMBT1*** expression
and location in the normal lung and lung cancer. By reverse-transcription
PCR, a down-regulation of the ***DMBT1*** expression in lung cancer
cell lines is commonly detected. Immunohistochemical studies in situ

demonstrate that there are also low steady-state levels of ***DMBT1*** in the normal respiratory epithelium. However, an up-regulation takes place in the tumor-flanking epithelium and upon respiratory inflammation. Lung carcinomas show increased ***DMBT1*** expression compared to that of undiseased lung tissue, but decreased ***DMBT1*** levels compared to that of tumor-flanking and inflammatory tissue. A switch from a luminal secretion to a secretion to the extracellular matrix takes place during lung carcinogenesis. Our data may resolve the controversial discussion on its expression in lung carcinomas. We hypothesize that the changes of the ***DMBT1*** expression and location do reflect a time course that may point to possible mechanisms for its role in epithelial cancer.

- L18 ANSWER 14 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 11
- AN 2003:272621 BIOSIS <<LOGINID::20090423>>
- DN PREV200300272621
- TI Immunohistochemical detection of salivary agglutinin/gp-340 in human parotid, submandibular, and labial salivary glands.
- AU ***Bikker, F. J.*** [Reprint Author]; Ligtenberg, A. J. M.; van der Wal, J. E.; van den Keijbus, P. A. M.; Holmskov, U.; Veerman, E. C. I.; Amerongen, A. V. Nieuw
- CS Department of Dental Basic Sciences, Academic Centre for Dentistry Amsterdam (ACTA), Van der Boechorststraat 7, 1081 BT, Amsterdam, Netherlands
fj.bikker.obc.acta@med.vu.nl
- SO Journal of Dental Research, (February 2002) Vol. 81, No. 2, pp. 134-139. print.
CODEN: JDREAF. ISSN: 0022-0345.
- DT Article
- LA English
- ED Entered STN: 11 Jun 2003
Last Updated on STN: 11 Jun 2003
- AB Salivary agglutinin is a Streptococcus mutans binding protein and a member of the scavenger receptor cysteine-rich superfamily. It is identical to lung gp-340 and brain ***DMBT1***, which possibly play a role in innate immunity and tumor suppression, respectively. The goal of this study was to localize salivary agglutinin in human salivary glands. Two monoclonal antibodies, directed against gp-340, were characterized. mAb 213-1 reacted with sialic acid epitopes and cross-reacted with MUC7. The reaction with mAb 213-6 disappeared after reduction, suggesting that a protein epitope was recognized. In the parotid gland, immunohistochemical labeling with mAb 213-6 was found in the duct cells. In the submandibular gland and labial gland, both serous acini and demilune cells were labeled. In the labial gland, labeling was found at the luminal side of the duct cells. Salivary agglutinin was distinctly localized in salivary glands, but in distinct glandular secretions, no differences in electrophoretic behavior were observed.
- L18 ANSWER 15 OF 15 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 12
- AN 2001:514300 BIOSIS <<LOGINID::20090423>>
- DN PREV200100514300
- TI Human salivary agglutinin binds to lung surfactant protein-D and is identical with scavenger receptor protein gp-340.
- AU Ligtenberg, Toon J. M. [Reprint author]; ***Bikker, Floris J.*** ; Groenink, Jasper; Tornøe, Ida; Leth-Larsen, Rikke; Veerman, Enno C. I.;

Nieuw Amerongen, Arie V.; Holmskov, Uffe
 CS Department of Basic Dental Sciences, Academic Centre for Dentistry
 Amsterdam (ACTA), van der Boechorststraat 7, 1081 BT, Amsterdam,
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 ajm.ligtenberg.obc.acta@med.vu.nl
 SO Biochemical Journal, (1 October, 2001) Vol. 359, No. 1, pp. 243-248.
 print.
 ISSN: 0264-6021.
 DT Article
 LA English
 ED Entered STN: 7 Nov 2001
 Last Updated on STN: 23 Feb 2002
 AB Salivary agglutinin is a 300-400 kDa salivary glycoprotein that binds to
 antigen B polypeptides of oral streptococci, thereby playing a role in
 their colonization and the development of caries. A mass spectrum was
 recorded of a trypsin digest of agglutinin. A dominant peak of 1460 Da
 was sequenced by quadrupole time-of-flight (Q-TOF) tandem MS. The
 sequence showed 100% identity with part of the scavenger receptor
 cysteine-rich ('SRCR') domain found in gp-340/ ***DMBT1*** (deleted in
 malignant brain tumours-1). The mass spectrum revealed 11 peaks with an
 identical mass as a computer-simulated trypsin digest of gp-340. gp-340 is
 a 340 kDa glycoprotein isolated from bronchoalveolar lavage fluid that
 binds specifically to lung surfactant protein-D. ***DMBT1*** is a
 candidate tumour suppressor gene. A search in the human genome revealed
 only one copy of this gene. The molecular mass, as judged from SDS/PAGE
 and the amino acid composition of agglutinin, was found to be nearly
 identical with that of gp-340. It was shown by Western blotting that
 monoclonal antibodies against gp-340 reacted with salivary agglutinin, and
 monoclonals against agglutinin reacted with gp-340. It was demonstrated
 that gp-340 and agglutinin bound in a similar way to Streptococcus mutans
 and surfactant protein-D. Histochemically, the distribution of gp-340 in
 the submandibular salivary glands was identical with the agglutinin
 distribution, as shown in a previous paper (Takano, Bogert, Malamud, Lally
 and Hand (1991) Anat. Rec. 230, 307-318). We conclude that agglutinin is
 identical with gp-340, and that this molecule interacts with S. mutans and
 surfactant protein-D.

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E1	2	LIGTENBERG ALLART/AU
E2	1	LIGTENBERG ANTON/AU
E3	9	--> LIGTENBERG ANTOON/AU
E4	5	LIGTENBERG ANTOON J/AU
E5	45	LIGTENBERG ANTOON J M/AU
E6	6	LIGTENBERG AREND/AU
E7	1	LIGTENBERG CHRIS/AU
E8	2	LIGTENBERG CHRIS A/AU
E9	1	LIGTENBERG CHRISTIAAN/AU
E10	1	LIGTENBERG CHRISTINE/AU
E11	1	LIGTENBERG CHRISTNE/AU
E12	2	LIGTENBERG E A A M/AU

=> s e2-e5 and dmbt?

L19 38 ("LIGTENBERG ANTON"/AU OR "LIGTENBERG ANTOON"/AU OR "LIGTENBERG
 ANTOON J"/AU OR "LIGTENBERG ANTOON J M"/AU) AND DMBT?

=> dup rem 119

PROCESSING COMPLETED FOR L19

L20 11 DUP REM L19 (27 DUPLICATES REMOVED)

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YOU HAVE REQUESTED DATA FROM 11 ANSWERS - CONTINUE? Y/(N):y

L20 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

AN 2009:402136 CAPLUS <<LOGINID::20090423>>

DN 150:327861

TI ***DMBT1*** functions as pattern-recognition molecule for poly-sulfated and poly-phosphorylated ligands

AU End, Caroline; Bikker, Floris; Renner, Marcus; Bergmann, Gaby; Lyer, Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; ***Ligtenberg, Antoon J. M.***; Benner, Axel; Holmskov, Uffe; Schirmacher, Peter; Nieuw Amerongen, Arie V.; Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias; Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan
CS Division of Molecular Genome Analysis, German Cancer Research Center, Heidelberg, Germany

SO European Journal of Immunology (2009), 39(3), 833-842

CODEN: EJIMAF; ISSN: 0014-2980

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

AB Deleted in malignant brain tumors 1 (***DMBT1***) is a secreted glycoprotein displaying a broad bacterial-binding spectrum. Recent functional and genetic studies linked ***DMBT1*** to the suppression of LPS-induced TLR4-mediated NF- κ B activation and to the pathogenesis of Crohn's disease. Here, the authors aimed at unraveling the mol. basis of its function in mucosal protection and of its broad pathogen-binding specificity. The authors report that ***DMBT1*** directly interacts with dextran sulfate sodium (DSS) and carrageenan, a structurally similar sulfated polysaccharide, which is used as a texturizer and thickener in human dietary products. However, binding of ***DMBT1*** does not reduce the cytotoxic effects of these agents to intestinal/epithelial cells in vitro. DSS and carrageenan compete for ***DMBT1***-mediated bacterial aggregation via interaction with its bacterial-recognition motif. Competition and ELISA studies identify poly-sulfated and poly-phosphorylated structures as ligands for this recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid. Dose-response studies in ***Dmbt1*** -/- and ***Dmbt1*** +/- mice utilizing the DSS-induced colitis model demonstrate a differential response only to low but not to high DSS doses. The authors propose that ***DMBT1*** functions as pattern-recognition mol. for poly-sulfated and poly-phosphorylated ligands providing a mol. basis for its broad bacterial-binding specificity and its inhibitory effects on LPS-induced TLR4-mediated NF- κ B activation.

L20 ANSWER 2 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 2

AN 2008:655889 BIOSIS <<LOGINID::20090423>>

DN PREV200800655888

TI A common binding motif for various bacteria of the bacteria-binding peptide SRCRP2 of ***DMBT1*** /gp-340/salivary agglutinin.

AU Leito, Jelani T. D. [Reprint Author]; ***Ligtenberg, Antoon J. M.***; Nazmi, Kamran; de Blieck-Hogervorst, Jolanda M. A.; Veerman, Enno C. I.; Amerongen, Arie V. Nieuw

CS Vrije Univ, Acad Ctr Dent Amsterdam ACTA, Dept Oral Biochem, Boechorststr
7, NL-1081 BT Amsterdam, Netherlands
j.leito@vumc.nl

SO Biological Chemistry, (SEP 2008) Vol. 389, No. 9, pp. 1193-1200.
ISSN: 1431-6730.

DT Article

LA English

ED Entered STN: 27 Nov 2008
Last Updated on STN: 27 Nov 2008

AB Salivary agglutinin (***DMBT1*** (SAG)) is identical to lung
glycoprotein-340 and encoded by the deleted in malignant brain tumors-1
gene. It is a member of the scavenger receptor cysteine-rich (SRCR)
superfamily, proteins that have one or more SRCR domains. Salivary
agglutinin plays a role in oral innate immunity by the binding and
agglutination of oral streptococci. Streptococcus mutans has been shown
to bind to a 16-mer peptide (QGRVEV LYRGSWGTVC) located within the SRCR
domains. Within this peptide, designated SRCR peptide 2, residues VEVL
and Ware critical for binding. The aim of this study was to investigate
binding of ***DMBT1*** (SAG) to other bacteria. Therefore, interaction
between a series of bacteria and ***DMBT1*** (SAG), SRCR peptide 2 and
its alanine substitution variants was investigated in adhesion and
agglutination assays. For different bacteria there was a highly
significant correlation between adhesion to ***DMBT1*** (SAG) and
adhesion to SRCR peptide 2, suggesting that SRCR peptide 2 is the major
bacteria-binding site. An alanine substitution scan showed that eight
amino acids are involved in binding (xRVEVLYxxSWxxxx). The binding motifs
varied for different species, but the residues VxVxY and W are always
present. In conclusion, a common binding motif (RVEVLYxxxSW) within the
SRCR domains is responsible for the broad bacteria-binding spectrum of
DMBT1 (SAG).

L20 ANSWER 3 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 3

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant
is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan;
Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank;
Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner,
Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie;
Ligtenberg,
*** Antoon J.*** ; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano,
Anna;
Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis,
Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan [Reprint
Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280,
D-69120 Heidelberg, Germany
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SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008
Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in

the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1 (***DMBT1***) is a secreted scavenger receptor cysteine-rich protein with predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of ***DMBT1*** in IBD. Methods: We studied ***DMBT1*** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within ***DMBT1*** were analyzed in an Italian IBD case-control sample. ***Dmbt1*** (-/-) mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis. ***Dmbt1*** (-/-) mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, IL6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

L20 ANSWER 4 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 4

AN 2008:70436 BIOSIS <<LOGINID::20090423>>

DN PREV200800053239

TI Salivary agglutinin/glycoprotein-340/ ***DMBT1*** : a single molecule with variable composition and with different functions in infection, inflammation and cancer.

AU ***Ligtenberg, Antoon J. M.*** [Reprint Author]; Veerman, Enno C. I.; Nieuw Amerongen, Arie V.; Mollenhauer, Jan

CS Free Univ Amsterdam, Acad Ctr Dent, Dept Oral Biochem, Boeorchststr 7, NL-1081 BT Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Biological Chemistry, (DEC 2007) Vol. 388, No. 12, pp. 1275-1289.
ISSN: 1431-6730.

DT Article
General Review; (Literature Review)

LA English

ED Entered STN: 9 Jan 2008
Last Updated on STN: 9 Jan 2008

AB Salivary agglutinin (SAG), lung glycoprotein-340 (gp-340) and Deleted in Malignant Brain Tumours 1 (***DMBT1***) are three names for identical proteins encoded by the ***dmbt1*** gene. ***DMBT1*** /SAG/gp-340 belongs to the scavenger receptor cysteine-rich (SRCR) superfamily of proteins, a superfamily of secreted or membrane-bound proteins with SRCR domains that are highly conserved down to sponges, the most ancient metazoa. On the one hand, ***DMBT1*** may represent an innate defence factor acting as a pattern recognition molecule. It interacts with a broad range of pathogens, including cariogenic streptococci and Helicobacter pylori, influenza viruses and HIV, but also with mucosal defence proteins, such as IgA, surfactant proteins and MUC5B. Stimulation

of alveolar macrophage migration, suppression of neutrophil oxidative burst and activation of the complement cascade point further to an important role in the regulation of inflammatory responses. On the other hand, ***DMBT1*** has been demonstrated to play a role in epithelial and stem cell differentiation. Inactivation of the gene coding for this protein may lead to disturbed differentiation, possibly resulting in tumour formation. These data strongly point to a role for ***DMBT1*** as a molecule linking innate immune processes with regenerative processes.

L20 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2006:126926 CAPLUS <<LOGINID::20090423>>

DN 144:190476

TI Salivary agglutinin and lung scavenger receptor cysteine-rich glycoprotein 340 have broad anti-influenza activities and interactions with surfactant protein D that vary according to donor source and sialylation

AU Hartshorn, Kevan L.; ***Ligtenberg, Antoon*** ; White, Mitchell R.; van Eijk, Martin; Hartshorn, Max; Pemberton, Lily; Holmskov, Uffe; Crouch, Erika

CS Department of Medicine, Section of Hematology/Oncology, Boston University School of Medicine, Boston, MA, 02118, USA

SO Biochemical Journal (2006), 393(2), 545-553

CODEN: BIJOAK; ISSN: 0264-6021

PB Portland Press Ltd.

DT Journal

LA English

AB The authors previously found that scavenger receptor cysteine-rich gp-340 (glycoprotein-340), isolated from lung or saliva, directly inhibits human IAVs (influenza A viruses). The authors now show that salivary gp-340 has broad antiviral activity against human, equine and porcine IAV strains. Although lung and salivary gp-340 are identical in protein sequence, salivary gp-340 from one donor had significantly greater antiviral activity against avian-like IAV strains which preferentially bind sialic acids in .alpha.(2,3) linkage. A greater d. of .alpha.(2,3)-linked sialic acids was present on the salivary gp-340 from this donor as compared with salivary gp-340 from another donor or several prepns. of lung gp-340. Hence, the specificity of sialic acid linkages on gp-340 is an important determinant of anti-IAV activity. Gp-340 binds to SP-D (surfactant protein D), and the authors previously showed that lung gp-340 has co-operative interactions with SP-D in viral neutralization and aggregation assays. The authors now report that salivary gp-340 can, in some cases, strongly antagonize certain antiviral activities of SP-D. This effect was assocd. with greater binding of salivary gp-340 to the carbohydrate recognition domain of SP-D as compared with the binding of lung gp-340. These findings may relate to interindividual variations in innate defense against highly pathogenic IAV and to effects of aspiration of oral contents on SP-D-mediated lung functions.

RE.CNT 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>

DN 143:260332

TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents

IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; ***Ligtenberg, Anton*** ; Nieuw-Amerongen, Arie; Veerman, Enno

PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts,
Germany

SO Eur. Pat. Appl., 57 pp.
CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
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	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		

AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. ***DMBT1*** may also be used as a diagnostic for diagnosing the susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 5

AN 2005:69186 BIOSIS <<LOGINID::20090423>>

DN PREV200500070157

TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.

AU Bikker, Floris J.; ***Ligtenberg, Antoon J. M.*** [Reprint Author];
End, Caroline; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; Wittig,
Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; De
Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V.
Nieuw; Poustka, Annemarie; Mollenhauer, Jan

CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam,
Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp.
47699-47703. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Feb 2005

Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group
of metazoan proteins characterized by the presence of SRCR domains. These
proteins are classified in group A and B based on the number of conserved
cysteine residues in their SRCR domains, i.e. six for group A and eight
for group B. The protein ***DMBT1*** (deleted in malignant brain
tumors 1), which is identical to salivary agglutinin and lung gp-340,
belongs to the group B SRCR proteins and is considered to be involved in
tumor suppression and host defense by pathogen binding. In a previous
study we used non-overlapping synthetic peptides covering the SRCR
consensus sequence to identify a 16-amino acid bacteria-binding protein
loop (peptide SRCRP2; QGRVEVLYRGSWGTVTC) within the SRCR domains. In this
study, using overlapping peptides, we pinpointed the minimal
bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino
acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***
; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp
are critical residues in this motif. Bacteria binding by
DMBT1pbs1 was different from the bacteria binding by the
macrophage receptor MARCO in which an RXR motif was critical. In
addition, the homologous consensus sequences of a number of SRCR proteins
were synthesized and tested for bacteria binding. Only consensus
sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L20 ANSWER 8 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 6

AN 2004:130519 BIOSIS <<LOGINID::20090423>>

DN PREV200400116079

TI Carcinogen inducibility in vivo and down-regulation of ***DMBT1***
during breast carcinogenesis.

AU Mollenhauer, Jan [Reprint Author]; Helmke, Burkhard; Medina, Daniel;
Bergmann, Gaby; Gassler, Nikolaus; Mueller, Hanna; Lyer, Stefan;
Diedrichs, Laura; Renner, Marcus; Wittig, Rainer; Blaich, Stephanie;
Hamann, Ute; Madsen, Jens; Holmskov, Uffe; Bikker, Floris;
Ligtenberg, Antoon; Carlen, Anette; Olsson, Jan; Otto, Herwart
F.;

O'Malley, Bert; Poustka, Annemarie

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany
j.mollenhauer@dkfz-heidelberg.de; j.mollenhauer@dkfz-heidelberg.de

SO Genes Chromosomes & Cancer, (March 2004) Vol. 39, No. 3, pp. 185-194.
print.
CODEN: GCCAES. ISSN: 1045-2257.

DT Article

LA English

ED Entered STN: 3 Mar 2004
Last Updated on STN: 3 Mar 2004

AB Deleted in malignant brain tumors 1 (*****DMBT1*****) has been proposed as
a candidate tumor suppressor for brain and epithelial cancer. Initial
studies suggested loss of expression rather than mutation as the
predominant mode of *****DMBT1***** inactivation. However, in situ
studies in lung cancer demonstrated highly sophisticated changes of
*****DMBT1***** expression and localization, pointing to a chronological
order of events. Here we report on the investigation of *****DMBT1*****
in breast cancer in order to test whether these principles might also be
attributable to other tumor types. Comprehensive mutational analyses did
not uncover unambiguous inactivating *****DMBT1***** mutations in breast
cancer. Expression analyses in the human and mouse mammary glands pointed
to the necessity of *****DMBT1***** induction. While age-dependent and
hormonal effects could be ruled out, 9 of 10 mice showed induction of
*****Dmbt1***** expression after administration of the carcinogen
7,12-dimethylbenz(alpha)anthracene prior to the onset of tumorigenesis or
other histopathological changes. *****DMBT1***** displayed significant
up-regulation in human tumor-flanking tissues compared to in normal breast
tissues (P < 0.05). However, the breast tumor cells displayed a switch
from luminal secretion to secretion to the extracellular matrix and a
significant down-regulation compared to that in matched normal flanking
tissues (P < 0.01). We concluded that loss of expression also is the
predominant mode of *****DMBT1***** inactivation in breast cancer. The
dynamic behavior of *****DMBT1***** in lung carcinoma is fully reflected
in breast cancer, which suggests that this behavior might be common to
tumor types arising from monolayered epithelia.

L20 ANSWER 9 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 7

AN 2005:35700 BIOSIS <<LOGINID::20090423>>

DN PREV200500033927

TI Binding of salivary agglutinin to IgA.

AU *****Ligtenberg, Antoon J. M.***** [Reprint Author]; Bikker, Floris J.; De
Blieck-Hogervorst, Jolanda M. A.; Veerman, Enno C. I.; Amerongen, Arie V.
Nieuw

CS Fac MedDept Dent Basic SciSect Oral Biochem, Acad Ctr Dent, Free Univ
Amsterdam, Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
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SO Biochemical Journal, (October 1 2004) Vol. 383, No. Part 1, pp. 159-164.
print.
ISSN: 0264-6021.

DT Article

LA English

ED Entered STN: 19 Jan 2005
Last Updated on STN: 19 Jan 2005

AB SAG (salivary agglutinin), which is identical to gp-340 (glycoprotein-340)
from the lung, is encoded by *****DMBT1***** (deleted in malignant brain
tumours 1). It is a member of the SRCR (scavenger receptor cysteine-rich)

superfamily and contains 14 SRCR domains, 13 of which are highly similar. SAG in saliva is partially complexed with IgA, which may be necessary for bacterial binding. The goal of the present study was to characterize the binding of purified SAG to IgA. SAG binds to a variety of proteins, including serum and secretory IgA, alkaline phosphatase-conjugated IgGs originating from rabbit, goat, swine and mouse, and lactoferrin and albumin. Binding of IgA to SAG is calcium dependent and is inhibited by 0.5 M KCl, suggesting that electrostatic interactions are involved. Binding of IgA was destroyed after reduction of SAG, suggesting that the protein moiety is involved in binding. To pinpoint further the binding domain for IgA on SAG, a number of consensus-based peptides of the SRCR domains and SRCR interspersed domains were designed and synthesized. ELISA binding studies with IgA indicated that only one of the peptides tested, comprising amino acids 18-33 (QGRVEVL YRG SWGTVC) of the 109-amino-acid SRCR domain, exhibited binding to IgA. This domain is identical to the domain of SAG that is involved in binding to bacteria. Despite this similar binding site, IgA did not inhibit binding of Streptococcus mutans to SAG or peptide. These results show that the binding of IgA to SAG is specifically mediated by a peptide sequence on the SRCR domains.

- L20 ANSWER 10 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
- AN 2003:584033 BIOSIS <<LOGINID::20090423>>
- DN PREV200300583256
- TI The potential functional dualism of ***DMBT1*** : Epithelial differentiation and pathogen-binding.
- AU Mollenhauer, Jan [Reprint Author]; Bikker, Floris; Helmke, Burkhard; Kollender, Gaby [Reprint Author]; Lyster, Stefan [Reprint Author]; Renner, Marcus [Reprint Author]; ***Ligtenberg, Antoon*** ; Madsen, Jens; Holmskov, Uffe; Otto, Herwart F.; Poustka, Annemarie [Reprint Author]
- CS Department for Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, Germany
- SO International Journal of Molecular Medicine, (2003) Vol. 12, No. Supplement 1, pp. S9. print.
Meeting Info.: 8th World Congress on Advances in Oncology and 6th International Symposium on Molecular Medicine. Crete, Greece. October 16-18, 2003.
ISSN: 1107-3756 (ISSN print).
- DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
- LA English
- ED Entered STN: 10 Dec 2003
Last Updated on STN: 10 Dec 2003
- L20 ANSWER 11 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN DUPLICATE 8
- AN 2002:535766 BIOSIS <<LOGINID::20090423>>
- DN PREV200200535766
- TI Identification of the bacteria-binding peptide domain on salivary agglutinin (gp-340/ ***DMBT1***), a member of the scavenger receptor cysteine-rich superfamily.
- AU Bikker, Floris J. [Reprint author]; ***Ligtenberg, Antoon J. M.*** ; Nazmi, Kamran; Veerman, Enno C. I.; van't Hof, Wim; Bolscher, Jan G. M.; Poustka, Annemarie; Amerongen, Arie V. Nieuw; Mollenhauer, Jan
- CS Van der Boechorststraat 7, 1081 BT, Amsterdam, Netherlands
fj.bikker.obc.acta@med.vu.nl

SO Journal of Biological Chemistry, (August 30, 2002) Vol. 277, No. 35, pp. 32109-32115. print.
 CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 16 Oct 2002
 Last Updated on STN: 16 Oct 2002

AB Salivary agglutinin is encoded by ***DMBT1*** and identical to gp-340, a member of the scavenger receptor cysteine-rich (SRCR) superfamily. Salivary agglutinin/DAMBT1 is known for its Streptococcus mutans agglutinating properties. This 300-400 kDa glycoprotein is composed of conserved peptide motifs: 14 SRCR domains that are separated by SRCR-interspersed domains (SIDs), 2 CUB (C1r/C1s Uegf Bmp1) domains, and a zona pellucida domain. We have searched for the peptide domains of agglutinin/ ***DMBT1*** responsible for bacteria binding. Digestion with endoproteinase Lys-C resulted in a protein fragment containing exclusively SRCR and SID domains that binds to S. mutans. To define more closely the S. mutans-binding domain, consensus-based peptides of the SRCR domains and SIDs were designed and synthesized. Only one of the SRCR peptides, designated SRCRP2, and none of the SID peptides bound to S. mutans. Strikingly, this peptide was also able to induce agglutination of S. mutans and a number of other bacteria. The repeated presence of this peptide in the native molecule endows agglutinin/ ***DMBT1*** with a general bacterial binding feature with a multivalent character. Moreover, our studies demonstrate for the first time that the polymorphic SRCR domains of salivary agglutinin/ ***DMBT1*** mediate ligand interactions.

=> e nieuw amerongen arie/au

E1	1	NIEUW AMERONGEN A V DR/AU
E2	1	NIEUW AMERONGEN A VAN/AU
E3	1	--> NIEUW AMERONGEN ARIE/AU
E4	165	NIEUW AMERONGEN ARIE V/AU
E5	1	NIEUW AMERONGEN ARIE V DR/AU
E6	1	NIEUW AMERONGEN GEERTEN P/AU
E7	2	NIEUW ARIE V/AU
E8	1	NIEUWALAND R/AU
E9	1	NIEUWALANDT D T/AU
E10	10	NIEUWAMERONGEN A V/AU
E11	1	NIEUWAND D/AU
E12	1	NIEUWAND M S/AU

=> s e1-e7 and dmbt?

L21 23 ("NIEUW AMERONGEN A V DR"/AU OR "NIEUW AMERONGEN A VAN"/AU OR "NIEUW AMERONGEN ARIE"/AU OR "NIEUW AMERONGEN ARIE V"/AU OR "NIEUW AMERONGEN ARIE V DR"/AU OR "NIEUW AMERONGEN GEERTEN P"/AU OR "NIEUW ARIE V"/AU) AND DMBT?

=> dup rem l21

PROCESSING COMPLETED FOR L21

L22 10 DUP REM L21 (13 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 10 ANSWERS - CONTINUE? Y/(N):y

L22 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 1

AN 2009:402136 CAPLUS <<LOGINID::20090423>>
DN 150:327861
TI ***DMBT1*** functions as pattern-recognition molecule for
poly-sulfated and poly-phosphorylated ligands
AU End, Caroline; Bikker, Floris; Renner, Marcus; Bergmann, Gaby; Lyer,
Stefan; Blaich, Stephanie; Hudler, Melanie; Helmke, Burkhard; Gassler,
Nikolaus; Autschbach, Frank; Ligtenberg, Antoon J. M.; Benner, Axel;
Holmskov, Uffe; Schirmacher, Peter; ***Nieuw Amerongen, Arie V.*** ;
Rosenstiel, Philip; Sina, Christian; Franke, Andre; Hafner, Mathias;
Kioschis, Petra; Schreiber, Stefan; Poustka, Annemarie; Mollenhauer, Jan
CS Division of Molecular Genome Analysis, German Cancer Research Center,
Heidelberg, Germany
SO European Journal of Immunology (2009), 39(3), 833-842
CODEN: EJIMAF; ISSN: 0014-2980
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
AB Deleted in malignant brain tumors 1 (***DMBT1***) is a secreted
glycoprotein displaying a broad bacterial-binding spectrum. Recent
functional and genetic studies linked ***DMBT1*** to the suppression
of LPS-induced TLR4-mediated NF-.kappa.B activation and to the
pathogenesis of Crohn's disease. Here, the authors aimed at unraveling
the mol. basis of its function in mucosal protection and of its broad
pathogen-binding specificity. The authors report that ***DMBT1***
directly interacts with dextran sulfate sodium (DSS) and carrageenan, a
structurally similar sulfated polysaccharide, which is used as a
texturizer and thickener in human dietary products. However, binding of
DMBT1 does not reduce the cytotoxic effects of these agents to
intestinal/epithelial cells in vitro. DSS and carrageenan compete for
DMBT1 -mediated bacterial aggregation via interaction with its
bacterial-recognition motif. Competition and ELISA studies identify
poly-sulfated and poly-phosphorylated structures as ligands for this
recognition motif, such as heparan sulfate, LPS, and lipoteichoic acid.
Dose-response studies in ***Dmbt1*** -/- and ***Dmbt1*** +/- mice
utilizing the DSS-induced colitis model demonstrate a differential
response only to low but not to high DSS doses. The authors propose that
DMBT1 functions as pattern-recognition mol. for poly-sulfated and
poly-phosphorylated ligands providing a mol. basis for its broad
bacterial-binding specificity and its inhibitory effects on LPS-induced
TLR4-mediated NF-.kappa.B activation.

L22 ANSWER 2 OF 10 MEDLINE on STN
AN 2008618576 MEDLINE <<LOGINID::20090423>>
DN PubMed ID: 18713006
TI A common binding motif for various bacteria of the bacteria-binding
peptide SRCRP2 of ***DMBT1*** /gp-340/salivary agglutinin.
AU Leito Jelani T D; Ligtenberg Antoon J M; Nazmi Kamran; de
Blieck-Hogervorst Jolanda M A; Veerman Enno C I; ***Nieuw Amerongen
Arie***
*** V***
CS Department of Oral Biochemistry, Academic Centre for Dentistry Amsterdam
(ACTA), Vrije Universiteit and Universiteit van Amsterdam, Van der
Boechorststraat 7, NL-1081 BT Amsterdam, The Netherlands.. j.leito@vumc.nl
SO Biological chemistry, (2008 Sep) Vol. 389, No. 9, pp. 1193-200.
Journal code: 9700112. ISSN: 1431-6730.
CY Germany: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Priority Journals
EM 200810
ED Entered STN: 24 Sep 2008
Last Updated on STN: 18 Oct 2008
Entered Medline: 17 Oct 2008
AB Abstract Salivary agglutinin (*****DMBT1SAG*****) is identical to lung glycoprotein-340 and encoded by deleted in malignant brain tumors-1. It is a member of the scavenger receptor cysteine-rich (SRCR) superfamily, proteins that have one or more SRCR domains. Salivary agglutinin plays a role in oral innate immunity by the binding and agglutination of oral streptococci. *S. mutans* has been shown to bind to a 16-mer peptide (QGRVEVLYRGSWGTVTC) located within the SRCR domains. Within this peptide, designated SRCR Peptide 2, residues VEVL and W were critical for binding. The aim of this study was to investigate binding of *****DMBT1SAG***** to other bacteria. Therefore, interaction between a series of bacteria and *****DMBT1***** (SAG), SRCR peptide 2 and its alanine substitution variants was studied in adhesion and agglutination assays. For different bacteria there was a highly significant correlation between adhesion to *****DMBT1SAG***** and adhesion to SRCR peptide 2 suggesting that SRCR peptide 2 is the major bacteria binding site. An alanine substitution scan showed that 8 amino acids were involved in binding (xRVEVLYxxSWxxxx). The binding motifs varied for different species were found, but the residues VxVxY and W were always present. In conclusion, a common binding motif (RVEVLYxxxSW) within the SRCR domains is responsible for the broad bacteria-binding spectrum of *****DMBT1SAG***** .

L22 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2007:1459431 CAPLUS <<LOGINID::20090423>>

DN 148:468801

TI *****DMBT1***** confers mucosal protection in vivo and a deletion variant is associated with Crohn's Disease

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobelt-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; *****Nieuw Amerongen, Arie V.***** ; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan
CS Division of Molecular Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, Germany

SO Gastroenterology (2007), 133(5), 1499-1509

CODEN: GASTAB; ISSN: 0016-5085

PB Elsevier Inc.

DT Journal

LA English

AB Background & Aims: Impaired mucosal defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant brain tumors 1 (*****DMBT1*****) is a secreted scavenger receptor cysteine-rich protein with

predominant expression in the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of *****DMBT1***** in IBD. Methods: We studied *****DMBT1***** expression in IBD and normal tissues by quant. reverse transcription-polymerase chain reaction, immunohistochem., and mRNA in situ hybridization. Genetic polymorphisms within *****DMBT1*****

were analyzed in an Italian IBD case-control sample. ***Dmbt1*** -/- mice were generated, characterized, and analyzed for their susceptibility to dextran sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced no. of scavenger receptor cysteine-rich domain coding exons is assocd. with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis. ***Dmbt1*** -/- mice display enhanced susceptibility to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and prevention of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 4 OF 10 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 2

AN 2008:70436 BIOSIS <<LOGINID::20090423>>

DN PREV200800053239

TI Salivary agglutinin/glycoprotein-340/ ***DMBT1*** : a single molecule
with variable composition and with different functions in infection,
inflammation and cancer.

AU Ligtenberg, Antoon J. M. [Reprint Author]; Veerman, Enno C. I.;

Nieuw

*** Amerongen, Arie V.*** ; Mollenhauer, Jan

CS Free Univ Amsterdam, Acad Ctr Dent, Dept Oral Biochem, Boechorststr 7,
NL-1081 BT Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl

SO Biological Chemistry, (DEC 2007) Vol. 388, No. 12, pp. 1275-1289.
ISSN: 1431-6730.

DT Article

General Review; (Literature Review)

LA English

ED Entered STN: 9 Jan 2008

Last Updated on STN: 9 Jan 2008

AB Salivary agglutinin (SAG), lung glycoprotein-340 (gp-340) and Deleted in
Malignant Brain Tumours 1 (***DMBT1***) are three names for identical
proteins encoded by the ***dmbt1*** gene. ***DMBT1*** /SAG/gp-340
belongs to the scavenger receptor cysteine-rich (SRCR) superfamily of
proteins, a superfamily of secreted or membrane-bound proteins with SRCR
domains that are highly conserved down to sponges, the most ancient
metazoa. On the one hand, ***DMBT1*** may represent an innate defence
factor acting as a pattern recognition molecule. It interacts with a
broad range of pathogens, including cariogenic streptococci and
Helicobacter pylori, influenza viruses and HIV, but also with mucosal
defence proteins, such as IgA, surfactant proteins and MUC5B. Stimulation
of alveolar macrophage migration, suppression of neutrophil oxidative
burst and activation of the complement cascade point further to an
important role in the regulation of inflammatory responses. On the other
hand, ***DMBT1*** has been demonstrated to play a role in epithelial
and stem cell differentiation. Inactivation of the gene coding for this
protein may lead to disturbed differentiation, possibly resulting in
tumour formation. These data strongly point to a role for ***DMBT1***
as a molecule linking innate immune processes with regenerative processes.

L22 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>

DN 143:260332

TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents

IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; ***Nieuw-Amerongen, Arie*** ; Veerman, Enno

PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany

SO Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		

AB Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the treatment of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group.

DMBT1 may also be used as a diagnostic for diagnosing the susceptibility of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or treatment of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate

and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human susceptibility to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased susceptibility and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 3

AN 2004:939392 CAPLUS <<LOGINID::20090423>>

DN 142:89715

TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the VEVLXXXXW motif in its scavenger receptor cysteine-rich domains

AU Bikker, Floris J.; Ligtenberg, Antoon J. M.; End, Caroline; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; Wittig, Rainer; van't Hof, Wim; Veerman, Enno C. I.; Nazmi, Kamran; de Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; ***Nieuw Amerongen, Arie V.*** ; Poustka, Annemarie; Mollenhauer, Jan

CS Academic Centre for Dentistry Amsterdam (ACTA), Department of Oral Biochemistry, Vrije Universiteit en Universiteit van Amsterdam, 68163, Neth.

SO Journal of Biological Chemistry (2004), 279(46), 47699-47703
CODEN: JBCHA3; ISSN: 0021-9258

PB American Society for Biochemistry and Molecular Biology

DT Journal

LA English

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group of metazoan proteins characterized by the presence of SRCR domains. These proteins are classified in group A and B based on the no. of conserved cysteine residues in their SRCR domains, i.e. 6 for group A and 8 for group B. The protein ***DMBT1*** (deleted in malignant brain tumors 1), which is identical to salivary agglutinin and lung gp-340, belongs to the group B SRCR proteins and is considered to be involved in tumor suppression and host defense by pathogen binding. In a previous study we used nonoverlapping synthetic peptides covering the SRCR consensus sequence to identify a 16-amino acid bacteria-binding protein loop (peptide SRCRP2; QGRVEVLYRGSWGTVVC) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1***; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are crit. residues in this motif. Bacteria binding by ***DMBT1pbs1*** was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was crit. In addn., the homologous consensus sequences of a no. of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of ***DMBT1*** orthologs bound bacteria by this motif.

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 7 OF 10 MEDLINE on STN

AN 2004474758 MEDLINE <<LOGINID::20090423>>

DN PubMed ID: 15385529

TI A peptide domain of bovine milk lactoferrin inhibits the interaction between streptococcal surface protein antigen and a salivary agglutinin

peptide domain.

AU Oho Takahiko; Bikker Floris J; ***Nieuw Amerongen Arie V*** ; Groenink Jasper

CS Department of Preventive Dentistry, Kyushu University Faculty of Dental Sciences, Fukuoka, Japan.. oho@denta.hal.kagoshima-u.ac.jp

SO Infection and immunity, (2004 Oct) Vol. 72, No. 10, pp. 6181-4.
Journal code: 0246127. ISSN: 0019-9567.
Report No.: NLM-PMC517587.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200410

ED Entered STN: 24 Sep 2004
Last Updated on STN: 26 Oct 2004
Entered Medline: 25 Oct 2004

AB The peptide domain of salivary agglutinin responsible for its interaction with cell surface protein antigen (Pac) of Streptococcus mutans or bovine lactoferrin was found in the same peptide, scavenger receptor cysteine-rich domain peptide 2 (SRCRP2). Inhibition studies suggest that Pac and lactoferrin, of which residues 480 to 492 seem important, competitively bind to the SRCRP2 domain of salivary agglutinin.

L22 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 4

AN 2004:777946 CAPLUS <<LOGINID::20090423>>

DN 141:364852

TI Binding of salivary agglutinin to IgA

AU Ligtenberg, Antoon J. M.; Bikker, Floris J.; De Blieck-Hogervorst, Jolanda M. A.; Veerman, Enno C. I.; ***Nieuw Amerongen, Arie V.***

CS Department of Dental Basic Sciences, Section Oral Biochemistry, Academic Centre for Dentistry, Medical Faculty of the Free University, Amsterdam, 1081 BT, Neth.

SO Biochemical Journal (2004), 383(1), 159-164
CODEN: BIJOAK; ISSN: 0264-6021

PB Portland Press Ltd.

DT Journal

LA English

AB SAG (salivary agglutinin), which is identical to gp-340 (glycoprotein-340) from the lung, is encoded by ***DMBT1*** (deleted in malignant brain tumors 1). It is a member of the SRCR (scavenger receptor cysteine-rich) superfamily and contains 14 SRCR domains, 13 of which are highly similar. SAG in saliva is partially complexed with IgA, which may be necessary for bacterial binding. The goal of the present study was to characterize the binding of purified SAG to IgA. SAG binds to a variety of proteins, including serum and secretory IgA, alk. phosphatase-conjugated IgGs originating from rabbit, goat, swine and mouse, and lactoferrin and albumin. Binding of IgA to SAG is calcium dependent and is inhibited by 0.5 M KCl, suggesting that electrostatic interactions are involved. Binding of IgA was destroyed after redn. of SAG, suggesting that the protein moiety is involved in binding. To pinpoint further the binding domain for IgA on SAG, a no. of consensus-based peptides of the SRCR domains and SRCR interspersed domains were designed and synthesized. ELISA binding studies with IgA indicated that only one of the peptides tested, comprising amino acids 18-33 (QGRVEVLYRGSWGTVVC) of the 109-amino-acid SRCR domain, exhibited binding to IgA. This domain is identical to the domain of SAG that is involved in binding to bacteria. Despite this similar binding site, IgA did not inhibit binding of

Streptococcus mutans to SAG or peptide. These results show that the binding of IgA to SAG is specifically mediated by a peptide sequence on the SRCR domains.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 5

AN 2002:678006 CAPLUS <<LOGINID::20090423>>

DN 137:334428

TI Identification of the bacteria-binding peptide domain on salivary agglutinin (gp-340/ ***DMBT1***), a member of the scavenger receptor cysteine-rich superfamily

AU Bikker, Floris J.; Ligtenberg, Antoon J. M.; Nazmi, Kamran; Veerman, Enno C. I.; van't Hof, Wim; Bolscher, Jan G. M.; Poustka, Annemarie;

Nieuw

*** Amerongen, Arie V.*** ; Mollenhauer, Jan

CS Department of Dental Basic Sciences, Section of Oral Biochemistry, Academic Centre for Dentistry Amsterdam (ACTA), Amsterdam, 1081 BT, Neth.

SO Journal of Biological Chemistry (2002), 277(35), 32109-32115
CODEN: JBCHA3; ISSN: 0021-9258

PB American Society for Biochemistry and Molecular Biology

DT Journal

LA English

AB Salivary agglutinin is encoded by ***DMBT1*** and identical to gp-340, a member of the scavenger receptor cysteine-rich (SRCR) superfamily. Salivary agglutinin/ ***DMBT1*** is known for its Streptococcus mutans agglutinating properties. This 300-400 kDa glycoprotein is composed of conserved peptide motifs: 14 SRCR domains that are sepd. by SRCR-interspersed domains (SIDs), 2 CUB (Clr/Cls Uegf Bmp1) domains, and a zona pellucida domain. We have searched for the peptide domains of agglutinin/ ***DMBT1*** responsible for bacteria binding. Digestion with endoproteinase Lys-C resulted in a protein fragment contg. exclusively SRCR and SID domains that binds to S. mutans. To define more closely the S. mutans-binding domain, consensus-based peptides of the SRCR domains and SIDs were designed and synthesized. Only one of the SRCR peptides, designated SRCRP2, and none of the SID peptides bound to S. mutans. Strikingly, this peptide was also able to induce agglutination of S. mutans and a no. of other bacteria. The repeated presence of this peptide in the native mol. endows agglutinin/ ***DMBT1*** with a general bacterial binding feature with a multivalent character. Moreover, our studies demonstrate for the first time that the polymorphic SRCR domains of salivary agglutinin/ ***DMBT1*** mediate ligand interactions.

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 10 OF 10 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on
STN DUPLICATE 6

AN 2001:514300 BIOSIS <<LOGINID::20090423>>

DN PREV200100514300

TI Human salivary agglutinin binds to lung surfactant protein-D and is identical with scavenger receptor protein gp-340.

AU Ligtenberg, Toon J. M. [Reprint author]; Bikker, Floris J.; Groenink, Jasper; Tornøe, Ida; Leth-Larsen, Rikke; Veerman, Enno C. I.; ***Nieuw***

*** Amerongen, Arie V.*** ; Holmskov, Uffe

CS Department of Basic Dental Sciences, Academic Centre for Dentistry Amsterdam (ACTA), van der Boechorststraat 7, 1081 BT, Amsterdam,

Netherlands
 ajm.ligtenberg.obc.acta@med.vu.nl
 SO Biochemical Journal, (1 October, 2001) Vol. 359, No. 1, pp. 243-248.
 print.
 ISSN: 0264-6021.
 DT Article
 LA English
 ED Entered STN: 7 Nov 2001
 Last Updated on STN: 23 Feb 2002
 AB Salivary agglutinin is a 300-400 kDa salivary glycoprotein that binds to
 antigen B polypeptides of oral streptococci, thereby playing a role in
 their colonization and the development of caries. A mass spectrum was
 recorded of a trypsin digest of agglutinin. A dominant peak of 1460 Da
 was sequenced by quadrupole time-of-flight (Q-TOF) tandem MS. The
 sequence showed 100% identity with part of the scavenger receptor
 cysteine-rich ('SRCR') domain found in gp-340/ ***DMBT1*** (deleted in
 malignant brain tumours-1). The mass spectrum revealed 11 peaks with an
 identical mass as a computer-simulated trypsin digest of gp-340. gp-340 is
 a 340 kDa glycoprotein isolated from bronchoalveolar lavage fluid that
 binds specifically to lung surfactant protein-D. ***DMBT1*** is a
 candidate tumour suppressor gene. A search in the human genome revealed
 only one copy of this gene. The molecular mass, as judged from SDS/PAGE
 and the amino acid composition of agglutinin, was found to be nearly
 identical with that of gp-340. It was shown by Western blotting that
 monoclonal antibodies against gp-340 reacted with salivary agglutinin, and
 monoclonals against agglutinin reacted with gp-340. It was demonstrated
 that gp-340 and agglutinin bound in a similar way to Streptococcus mutans
 and surfactant protein-D. Histochemically, the distribution of gp-340 in
 the submandibular salivary glands was identical with the agglutinin
 distribution, as shown in a previous paper (Takano, Bogert, Malamud, Lally
 and Hand (1991) Anat. Rec. 230, 307-318). We conclude that agglutinin is
 identical with gp-340, and that this molecule interacts with S. mutans and
 surfactant protein-D.

=> e veerman enno/au

E1	1	VEERMAN ENGELMUNDUS CORNELIS I/AU
E2	5	VEERMAN ENGELMUNDUS CORNELIS IGNATIUS/AU
E3	14 -->	VEERMAN ENNO/AU
E4	4	VEERMAN ENNO C/AU
E5	239	VEERMAN ENNO C I/AU
E6	1	VEERMAN ENNO C L/AU
E7	2	VEERMAN F B/AU
E8	6	VEERMAN F R/AU
E9	2	VEERMAN F W J/AU
E10	1	VEERMAN FRITS/AU
E11	152	VEERMAN G/AU
E12	13	VEERMAN G J/AU

=> s e3-e6 and dmbt?

L23 26 ("VEERMAN ENNO"/AU OR "VEERMAN ENNO C"/AU OR "VEERMAN ENNO C
 I"/AU OR "VEERMAN ENNO C L"/AU) AND DMBT?

=> dup rem 123

PROCESSING COMPLETED FOR L23

L24 7 DUP REM L23 (19 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 7 ANSWERS - CONTINUE? Y/(N):y

- L24 ANSWER 1 OF 7 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 1
- AN 2008:655889 BIOSIS <<LOGINID::20090423>>
- DN PREV200800655888
- TI A common binding motif for various bacteria of the bacteria-binding
peptide SRCRP2 of ***DMBT1*** /gp-340/salivary agglutinin.
- AU Leito, Jelani T. D. [Reprint Author]; Ligtenberg, Antoon J. M.; Nazmi,
Kamran; de Blicke-Hogervorst, Jolanda M. A.; ***Veerman, Enno C. I.***
; Amerongen, Arie V. Nieuw
- CS Vrije Univ, Acad Ctr Dent Amsterdam ACTA, Dept Oral Biochem, Boechorststr
7, NL-1081 BT Amsterdam, Netherlands
j.leito@vumc.nl
- SO Biological Chemistry, (SEP 2008) Vol. 389, No. 9, pp. 1193-1200.
ISSN: 1431-6730.
- DT Article
- LA English
- ED Entered STN: 27 Nov 2008
Last Updated on STN: 27 Nov 2008
- AB Salivary agglutinin (***DMBT1*** (SAG)) is identical to lung
glycoprotein-340 and encoded by the deleted in malignant brain tumors-1
gene. It is a member of the scavenger receptor cysteine-rich (SRCR)
superfamily, proteins that have one or more SRCR domains. Salivary
agglutinin plays a role in oral innate immunity by the binding and
agglutination of oral streptococci. Streptococcus mutans has been shown
to bind to a 16-mer peptide (QGRVEV LYRGSWGTVVC) located within the SRCR
domains. Within this peptide, designated SRCR peptide 2, residues VEVL
and Ware critical for binding. The aim of this study was to investigate
binding of ***DMBT1*** (SAG) to other bacteria. Therefore, interaction
between a series of bacteria and ***DMBT1*** (SAG), SRCR peptide 2 and
its alanine substitution variants was investigated in adhesion and
agglutination assays. For different bacteria there was a highly
significant correlation between adhesion to ***DMBT1*** (SAG) and
adhesion to SRCR peptide 2, suggesting that SRCR peptide 2 is the major
bacteria-binding site. An alanine substitution scan showed that eight
amino acids are involved in binding (xRVEVLYxxSWxxxx). The binding motifs
varied for different species, but the residues VxVxY and W are always
present. In conclusion, a common binding motif (RVEVLYxxxSW) within the
SRCR domains is responsible for the broad bacteria-binding spectrum of
DMBT1 (SAG).
- L24 ANSWER 2 OF 7 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 2
- AN 2008:70436 BIOSIS <<LOGINID::20090423>>
- DN PREV200800053239
- TI Salivary agglutinin/glycoprotein-340/ ***DMBT1*** : a single molecule
with variable composition and with different functions in infection,
inflammation and cancer.
- AU Ligtenberg, Antoon J. M. [Reprint Author]; ***Veerman, Enno C. I.*** ;
Nieuw Amerongen, Arie V.; Mollenhauer, Jan
- CS Free Univ Amsterdam, Acad Ctr Dent, Dept Oral Biochem, Boechorststr 7,
NL-1081 BT Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl
- SO Biological Chemistry, (DEC 2007) Vol. 388, No. 12, pp. 1275-1289.

ISSN: 1431-6730.

DT Article

General Review; (Literature Review)

LA English

ED Entered STN: 9 Jan 2008

Last Updated on STN: 9 Jan 2008

AB Salivary agglutinin (SAG), lung glycoprotein-340 (gp-340) and Deleted in Malignant Brain Tumours 1 (***DMBT1***) are three names for identical proteins encoded by the ***dmbt1*** gene. ***DMBT1*** /SAG/gp-340 belongs to the scavenger receptor cysteine-rich (SRCR) superfamily of proteins, a superfamily of secreted or membrane-bound proteins with SRCR domains that are highly conserved down to sponges, the most ancient metazoa. On the one hand, ***DMBT1*** may represent an innate defence factor acting as a pattern recognition molecule. It interacts with a broad range of pathogens, including cariogenic streptococci and Helicobacter pylori, influenza viruses and HIV, but also with mucosal defence proteins, such as IgA, surfactant proteins and MUC5B. Stimulation of alveolar macrophage migration, suppression of neutrophil oxidative burst and activation of the complement cascade point further to an important role in the regulation of inflammatory responses. On the other hand, ***DMBT1*** has been demonstrated to play a role in epithelial and stem cell differentiation. Inactivation of the gene coding for this protein may lead to disturbed differentiation, possibly resulting in tumour formation. These data strongly point to a role for ***DMBT1*** as a molecule linking innate immune processes with regenerative processes.

L24 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>

DN 143:260332

TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents

IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; ***Veerman, Enno***

PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany

SO Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,				

RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

EP 1727558 A1 20061206 EP 2005-732131 20050225
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
US 20080234185 A1 20080925 US 2006-590657 20060825
PRAI EP 2004-4281 A 20040225
WO 2005-EP1994 W 20050225

AB Disclosed is the use of ***DMBT1***, or of the nucleic acid encoding
it, for the manuf. of a medicament for the treatment of a patient
suffering from a disease caused by an agent which possesses at least one
accessible sulfate and/or at least one accessible phosphate group.
DMBT1 may also be used as a diagnostic for diagnosing the
susceptibility of an individual to sulfate or phosphate groups, as well in
methods for diagnosis, prophylaxis or treatment of diseases caused by an
agent which possesses at least one accessible sulfate and/or at least one
accessible phosphate group. The invention is based on the discovery that
human protein ***DMBT1*** (Deleted in Malignant Brain Tumors 1) is a
dual-specific pattern recognition receptor for non-self (bacterial cell
wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing
sulfated carbohydrates) and self structures (DNA, phospholipids, cell
surface and extracellular matrix carbohydrates), which interacts with
accessible sulfate and or phosphate groups, which are present on numerous
compds., compns., and organisms. Pattern recognition of ***DMBT1***
is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate
and phosphate groups. By acting as a dual-specific PRR, ***DMBT1***
may exert a general insulator function against a broad range of pathogens,
which predicts a contribution of ***DMBT1*** germline deletions to
human susceptibility to infection, inflammation, and cancer. Furthermore,
a 40% decreased level of ***DMBT1*** in male mice correlates with an
increased susceptibility and with a deficient protection against dextran
sulfate sodium-induced tissue damage and inflammation in the colon.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 4 OF 7 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 3

AN 2005:69186 BIOSIS <<LOGINID::20090423>>
DN PREV200500070157
TI Bacteria binding by ***DMBT1*** /SAG/gp-340 is confined to the
VEVLXXXXW motif in its scavenger receptor cysteine-rich domains.

AU Bikker, Floris J.; Ligtenberg, Antoon J. M. [Reprint Author]; End,
Caroline; Renner, Marcus; Blaich, Stephanie; Lyer, Stefan; Wittig, Rainer;
van't Hof, Wim; ***Veerman, Enno C. I.***; Nazmi, Kamran; De
Blieck-Hogervorst, Jolanda M. A.; Kioschis, Petra; Amerongen, Arie V.
Nieuw; Poustka, Annemarie; Mollenhauer, Jan

CS Acad Ctr Dent AmsterdamDept Oral Biochem, Free Univ Amsterdam,
Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
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SO Journal of Biological Chemistry, (November 12 2004) Vol. 279, No. 46, pp.
47699-47703. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article
LA English
ED Entered STN: 16 Feb 2005
Last Updated on STN: 16 Feb 2005

AB The scavenger receptor cysteine-rich (SRCR) proteins form an archaic group

of metazoan proteins characterized by the presence of SRCR domains. These proteins are classified in group A and B based on the number of conserved cysteine residues in their SRCR domains, i.e. six for group A and eight for group B. The protein ***DMBT1*** (deleted in malignant brain tumors 1), which is identical to salivary agglutinin and lung gp-340, belongs to the group B SRCR proteins and is considered to be involved in tumor suppression and host defense by pathogen binding. In a previous study we used non-overlapping synthetic peptides covering the SRCR consensus sequence to identify a 16-amino acid bacteria-binding protein loop (peptide SRCRP2; QGRVEVLYRGSWGTVVC) within the SRCR domains. In this study, using overlapping peptides, we pinpointed the minimal bacteria-binding site on SRCRP2, and thus ***DMBT1***, to an 11-amino acid motif (***DMBT1*** pathogen-binding site 1 or ***DMBT1pbs1*** ; GRVEVLYRGSW). An alanine substitution scan revealed that VEVL and Trp are critical residues in this motif. Bacteria binding by ***DMBT1pbs1*** was different from the bacteria binding by the macrophage receptor MARCO in which an RXR motif was critical. In addition, the homologous consensus sequences of a number of SRCR proteins were synthesized and tested for bacteria binding. Only consensus sequences of ***DMBT1*** orthologues bound bacteria by this motif.

L24 ANSWER 5 OF 7 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 4
AN 2005:35700 BIOSIS <<LOGINID::20090423>>
DN PREV200500033927
TI Binding of salivary agglutinin to IgA.
AU Ligtenberg, Antoon J. M. [Reprint Author]; Bikker, Floris J.; De
Blieck-Hogervorst, Jolanda M. A.; ***Veerman, Enno C. I.*** ;
Amerongen, Arie V. Nieuw
CS Fac MedDept Dent Basic SciSect Oral Biochem, Acad Ctr Dent, Free Univ
Amsterdam, Boechorststr 7, NL-1081 BT, Amsterdam, Netherlands
ajm.ligtenberg@vumc.nl
SO Biochemical Journal, (October 1 2004) Vol. 383, No. Part 1, pp. 159-164.
print.
ISSN: 0264-6021.
DT Article
LA English
ED Entered STN: 19 Jan 2005
Last Updated on STN: 19 Jan 2005
AB SAG (salivary agglutinin), which is identical to gp-340 (glycoprotein-340)
from the lung, is encoded by ***DMBT1*** (deleted in malignant brain
tumours 1). It is a member of the SRCR (scavenger receptor cysteine-rich)
superfamily and contains 14 SRCR domains, 13 of which are highly similar.
SAG in saliva is partially complexed with IgA, which may be necessary for
bacterial binding. The goal of the present study was to characterize the
binding of purified SAG to IgA. SAG binds to a variety of proteins,
including serum and secretory IgA, alkaline phosphatase-conjugated IgGs
originating from rabbit, goat, swine and mouse, and lactoferrin and
albumin. Binding of IgA to SAG is calcium dependent and is inhibited by
0.5 M KCl, suggesting that electrostatic interactions are involved.
Binding of IgA was destroyed after reduction of SAG, suggesting that the
protein moiety is involved in binding. To pinpoint further the binding
domain for IgA on SAG, a number of consensus-based peptides of the SRCR
domains and SRCR interspersed domains were designed and synthesized.
ELISA binding studies with IgA indicated that only one of the peptides
tested, comprising amino acids 18-33 (QGRVEVLYRGSWGTVVC) of the
109-amino-acid SRCR domain, exhibited binding to IgA. This domain is

identical to the domain of SAG that is involved in binding to bacteria. Despite this similar binding site, IgA did not inhibit binding of *Streptococcus mutans* to SAG or peptide. These results show that the binding of IgA to SAG is specifically mediated by a peptide sequence on the SRCR domains.

- L24 ANSWER 6 OF 7 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 5
- AN 2002:535766 BIOSIS <<LOGINID::20090423>>
- DN PREV200200535766
- TI Identification of the bacteria-binding peptide domain on salivary agglutinin (gp-340/ ***DMBT1***), a member of the scavenger receptor cysteine-rich superfamily.
- AU Bikker, Floris J. [Reprint author]; Ligtenberg, Antoon J. M.; Nazmi, Kamran; ***Veerman, Enno C. I.*** ; van't Hof, Wim; Bolscher, Jan G. M.; Poustka, Annemarie; Amerongen, Arie V. Nieuw; Mollenhauer, Jan
- CS Van der Boechorststraat 7, 1081 BT, Amsterdam, Netherlands
fj.bikker.obc.acta@med.vu.nl
- SO Journal of Biological Chemistry, (August 30, 2002) Vol. 277, No. 35, pp. 32109-32115. print.
CODEN: JBCHA3. ISSN: 0021-9258.
- DT Article
- LA English
- ED Entered STN: 16 Oct 2002
Last Updated on STN: 16 Oct 2002
- AB Salivary agglutinin is encoded by ***DMBT1*** and identical to gp-340, a member of the scavenger receptor cysteine-rich (SRCR) superfamily. Salivary agglutinin/DAMBT1 is known for its *Streptococcus mutans* agglutinating properties. This 300-400 kDa glycoprotein is composed of conserved peptide motifs: 14 SRCR domains that are separated by SRCR-interspersed domains (SIDs), 2 CUB (C1r/C1s Uegf Bmp1) domains, and a zona pellucida domain. We have searched for the peptide domains of agglutinin/ ***DMBT1*** responsible for bacteria binding. Digestion with endoproteinase Lys-C resulted in a protein fragment containing exclusively SRCR and SID domains that binds to *S. mutans*. To define more closely the *S. mutans*-binding domain, consensus-based peptides of the SRCR domains and SIDs were designed and synthesized. Only one of the SRCR peptides, designated SRCRP2, and none of the SID peptides bound to *S. mutans*. Strikingly, this peptide was also able to induce agglutination of *S. mutans* and a number of other bacteria. The repeated presence of this peptide in the native molecule endows agglutinin/ ***DMBT1*** with a general bacterial binding feature with a multivalent character. Moreover, our studies demonstrate for the first time that the polymorphic SRCR domains of salivary agglutinin/ ***DMBT1*** mediate ligand interactions.
- L24 ANSWER 7 OF 7 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
DUPLICATE 6
- AN 2001:514300 BIOSIS <<LOGINID::20090423>>
- DN PREV200100514300
- TI Human salivary agglutinin binds to lung surfactant protein-D and is identical with scavenger receptor protein gp-340.
- AU Ligtenberg, Toon J. M. [Reprint author]; Bikker, Floris J.; Groenink, Jasper; Tornøe, Ida; Leth-Larsen, Rikke; ***Veerman, Enno C. I.*** ; Nieuw Amerongen, Arie V.; Holmskov, Uffe
- CS Department of Basic Dental Sciences, Academic Centre for Dentistry Amsterdam (ACTA), van der Boechorststraat 7, 1081 BT, Amsterdam,

Netherlands
 ajm.ligtenberg.obc.acta@med.vu.nl
 SO Biochemical Journal, (1 October, 2001) Vol. 359, No. 1, pp. 243-248.
 print.
 ISSN: 0264-6021.
 DT Article
 LA English
 ED Entered STN: 7 Nov 2001
 Last Updated on STN: 23 Feb 2002
 AB Salivary agglutinin is a 300-400 kDa salivary glycoprotein that binds to
 antigen B polypeptides of oral streptococci, thereby playing a role in
 their colonization and the development of caries. A mass spectrum was
 recorded of a trypsin digest of agglutinin. A dominant peak of 1460 Da
 was sequenced by quadrupole time-of-flight (Q-TOF) tandem MS. The
 sequence showed 100% identity with part of the scavenger receptor
 cysteine-rich ('SRCR') domain found in gp-340/ ***DMBT1*** (deleted in
 malignant brain tumours-1). The mass spectrum revealed 11 peaks with an
 identical mass as a computer-simulated trypsin digest of gp-340. gp-340 is
 a 340 kDa glycoprotein isolated from bronchoalveolar lavage fluid that
 binds specifically to lung surfactant protein-D. ***DMBT1*** is a
 candidate tumour suppressor gene. A search in the human genome revealed
 only one copy of this gene. The molecular mass, as judged from SDS/PAGE
 and the amino acid composition of agglutinin, was found to be nearly
 identical with that of gp-340. It was shown by Western blotting that
 monoclonal antibodies against gp-340 reacted with salivary agglutinin, and
 monoclonals against agglutinin reacted with gp-340. It was demonstrated
 that gp-340 and agglutinin bound in a similar way to Streptococcus mutans
 and surfactant protein-D. Histochemically, the distribution of gp-340 in
 the submandibular salivary glands was identical with the agglutinin
 distribution, as shown in a previous paper (Takano, Bogert, Malamud, Lally
 and Hand (1991) Anat. Rec. 230, 307-318). We conclude that agglutinin is
 identical with gp-340, and that this molecule interacts with S. mutans and
 surfactant protein-D.

=> s DMBT?

L25 859 DMBT?

=> dup rem 125

PROCESSING COMPLETED FOR L25

L26 377 DUP REM L25 (482 DUPLICATES REMOVED)

=> s 126 and brain

L27 122 L26 AND BRAIN

=> s 127 and (treat? or prevent? or suscept?)

L28 22 L27 AND (TREAT? OR PREVENT? OR SUSCEPT?)

=> d bib ab kwic 1-

YOU HAVE REQUESTED DATA FROM 22 ANSWERS - CONTINUE? Y/(N):y

L28 ANSWER 1 OF 22 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN

AN 2008:112593 BIOSIS <<LOGINID::20090423>>

DN PREV200800114726

TI ***DMBT1*** confers mucosal protection in vivo and a deletion variant
 is associated with Crohn's disease.

AU Renner, Marcus; Bergmann, Gaby; Krebs, Inge; End, Caroline; Lyer, Stefan; Hilberg, Frank; Helmke, Burkhard; Gassler, Nikolaus; Autschbach, Frank; Bikker, Floris; Strobel-Freidekind, Olga; Gronert-Sum, Sabine; Benner, Axel; Blaich, Stephanie; Wittig, Rainer; Hudler, Melanie; Ligtenberg, Antoon J.; Madsen, Jens; Holmskov, Uffe; Annese, Vito; Latiano, Anna; Schirmacher, Peter; Amerongen, Arie V. Nieuw; D'Amato, Mauro; Kioschis, Petra; Hafner, Mathias; Poustka, Annemarie; Mollenhauer, Jan [Reprint Author]

CS Deutsch Krebsforschungszentrum, Div Mol Genome Anal, Neuenheimer Feld 280, D-69120 Heidelberg, Germany
j.mollenhauer@dkfz.de

SO Gastroenterology, (NOV 2007) Vol. 133, No. 5, pp. 1499-1509.
CODEN: GASTAB. ISSN: 0016-5085.

DT Article

LA English

ED Entered STN: 13 Feb 2008
Last Updated on STN: 13 Feb 2008

AB Background & Aims: Impaired mucosal. defense plays an important role in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant *****brain***** tumors 1(*****DMBT1*****) is a secreted scavenger receptor cysteine-rich protein with predominant expression in. the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of *****DMBT1***** in IBD. Methods: We studied *****DMBT1***** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within *****DMBT1***** were analyzed in an Italian IBD case-control sample. *****Dmbt1***** (-/-) mice were generated, characterized, and analyzed for their *****susceptibility***** to dextran sulfate sodium-induced colitis. Results: *****DMBT1***** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of *****DMBT1***** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of *****DMBT1***** with a reduced: number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P =.00056; odds ratio, 1.75) but not for ulcerative colitis. *****Dmbt1***** (-/-) mice display enhanced *****susceptibility***** to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: *****DMBT1***** may play a role in intestinal mucosal protection and *****prevention***** of inflammation. Impaired *****DMBT1***** function may contribute to the pathogenesis of CD.

TI *****DMBT1***** confers mucosal protection in vivo and a deletion variant is associated with Crohn's disease.

AB. . . in the pathogenesis of Crohn's disease (CD), one of the main subtypes of inflammatory bowel disease (IBD). Deleted in malignant *****brain***** tumors 1(*****DMBT1*****) is a secreted scavenger receptor cysteine-rich protein with predominant expression in. the intestine and has been proposed to exert possible functions in regenerative processes and pathogen defense. Here, we aimed at analyzing the role of *****DMBT1***** in IBD. Methods: We studied *****DMBT1***** expression in IBD and normal tissues by quantitative reverse transcription-polymerase chain reaction, immunohistochemistry, and mRNA in situ hybridization. Genetic polymorphisms within *****DMBT1***** were analyzed in an Italian IBD case-control sample. *****Dmbt1***** (-/-) mice were generated, characterized, and analyzed for their *****susceptibility***** to dextran

sulfate sodium-induced colitis. Results: ***DMBT1*** levels correlate with disease activity in inflamed IBD tissues. A highly significant fraction of the patients with IBD displayed up-regulation of ***DMBT1*** specifically in the intestinal epithelial surface cells and Paneth cells. A deletion allele of ***DMBT1*** with a reduced: number of scavenger receptor cysteine-rich domain coding exons is associated with an increased risk of CD (P = .00056; odds ratio, 1.75) but not for ulcerative colitis.

Dmbt1 (-/-) mice display enhanced ***susceptibility*** to dextran sulfate sodium-induced colitis and elevated Tnf, Il6, and Nod2 expression levels during inflammation. Conclusions: ***DMBT1*** may play a role in intestinal mucosal protection and ***prevention*** of inflammation. Impaired ***DMBT1*** function may contribute to the pathogenesis of CD.

GEN mouse Nod2 gene (Muridae): expression; mouse dbmt1 gene [mouse deleted in malignant ***brain*** tumor 1 gene] (Muridae): polymorphism, expression; mouse tnfrsf25 gene [mouse tumor necrosis factor receptor 25 gene] (Muridae): expression; mouse Il6 gene [mouse. . .

L28 ANSWER 2 OF 22 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2007:421389 BIOSIS <<LOGINID::20090423>>
DN PREV200700416637

TI Genetic mapping in mice identifies ***DMBT1*** as a candidate modifier of mammary tumors and breast cancer risk.

AU Blackburn, Anneke C.; Hill, Linda Z.; Roberts, Amy L.; Wang, Jun; Aud, Dee; Jung, Jimmy; Nikolcheva, Tania; Allard, John; Peltz, Gary; Otis, Christopher N.; Cao, Qing J.; Ricketts, Reva St. J.; Naber, Stephen P.; Mollenhauer, Jan; Poustka, Annemarie; Malamud, Daniel; Jerry, D. Joseph [Reprint Author]

CS Univ Massachusetts, Dept Vet and Anim Sci, Paige Lab, 161 Holdsworth Way, Amherst, MA 01003 USA
jjerry@vasci.umass.edu

SO American Journal of Pathology, (JUN 2007) Vol. 170, No. 6, pp. 2030-2041. CODEN: AJPA44. ISSN: 0002-9440.

DT Article

LA English

ED Entered STN: 8 Aug 2007

Last Updated on STN: 8 Aug 2007

AB Low-penetrance breast cancer ***susceptibility*** alleles seem to play a significant role in breast cancer risk but are difficult to identify in human cohorts. A genetic screen of 176 N2 backcross progeny of two Trp53(+/-) strains, BALB/c and C57BL/6, which differ in their

susceptibility to mammary tumors, identified a modifier of mammary

tumor ***susceptibility*** in an interval similar to 25-Mb interval on mouse chromosome 7 (designated SuprMam1). Relative to heterozygotes, homozygosity for BALB/c alleles of SuprMam1 significantly decreased mammary tumor latency from 70.7 to 61.1 weeks and increased risk twofold (P = 0.002). ***Dmbt1*** (deleted in malignant ***brain*** tumors 1) was identified as a candidate modifier gene within the SuprMam1 interval because it was differentially expressed in mammary tissues from BALB/c-Trp53(+/-) and C57BL/6-Trp53(+/-) mice. ***Dmbt1*** mRNA and protein was reduced in mammary glands of the ***susceptible*** BALB/c mice. Immunohistochemical staining demonstrated that ***DMBT1*** protein expression was also significantly reduced in normal breast tissue from women with breast cancer (staining score, 1.8; n = 46) compared with cancer-free controls (staining score, 3.9; n = 53; P < 0.0001). These experiments demonstrate the use of Trp53(+/-) mice as a sensitized

background to screen for low-penetrance modifiers of cancer. The results identify a novel mammary tumor ***susceptibility*** locus in mice and support a role for ***DMBT1*** in suppression of inammary tumors in both miceandwomen.

TI Genetic mapping in mice identifies ***DMBT1*** as a candidate modifier of mammary tumors and breast cancer risk.

AB Low-penetrance breast cancer ***susceptibility*** alleles seem to play a significant role in breast cancer risk but are difficult to identify in human cohorts. A genetic screen of 176 N2 backcross progeny of two Trp53(+/-) strains, BALB/c and C57BL/6, which differ in their ***susceptibility*** to mammary tumors, identified a modifier of mammary tumor ***susceptibility*** in an similar to 25-Mb interval on mouse chromosome 7 (designated SuprMam1). Relative to heterozygotes, homozygosity for BALB/c alleles of SuprMam1 significantly decreased mammary tumor latency from 70.7 to 61.1 weeks and increased risk twofold (P = 0.002). ***Dmbt1*** (deleted in malignant ***brain*** tumors 1) was identified as a candidate modifier gene within the SuprMam1 interval because it was differentially expressed in mammary tissues from BALB/c-Trp53(+/-) and C57BL/6-Trp53(+/-) mice. ***Dmbt1*** mRNA and protein was reduced in mammary glands of the ***susceptible*** BALB/c mice. Immunohistochemical staining demonstrated that ***DMBT1*** protein expression was also significantly reduced in normal breast tissue from women with breast cancer (staining score, 1.8; n = . . . Trp53(+/-) mice as a sensitized background to screen for low-penetrance modifiers of cancer. The results identify a novel mammary tumor ***susceptibility*** locus in mice and support a role for ***DMBT1*** in suppression of inammary tumors in both miceandwomen.

GEN mouse ***DMBT1*** gene [mouse deleted in malignant ***brain*** tumor 1 gene] (Muridae): allele, locus, expression; mouse Trp53 gene (Muridae): locus

L28 ANSWER 3 OF 22 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN

AN 2005:202251 BIOSIS <<LOGINID::20090423>>

DN PREV200500210704

TI Down-regulation of ***DMBT1*** gene expression in human oral squamous cell carcinoma.

AU Imai, Massao Alberto; Moriya, Tetsuhiro; Ima, Fabiana Lica; Shiiba, Masashi; Bukawa, Hiroki; Yokoe, Hidetaka; Uzawa, Katsuhiko [Reprint Author]; Tanzawa, Hideki

CS Grad Sch MedDept Clin Mol BiolChuo Ku, Chiba Univ, 1-8-1 Inohana, Chiba, 2608670, Japan
uzawak@faculty.chiba-u.jp

SO International Journal of Molecular Medicine, (April 2005) Vol. 15, No. 4, pp. 585-589. print.
ISSN: 1107-3756 (ISSN print).

DT Article

LA English

ED Entered STN: 1 Jun 2005
Last Updated on STN: 1 Jun 2005

AB Deleted in malignant ***brain*** tumors 1 (***DMBT1***) gene was recently isolated on chromosome 10q25.3-26.1 and has been proposed as a putative candidate tumor suppressor for ***brain*** , esophageal, gastric, colorectal, and lung cancer. However, little is known about the association of ***DMBT1*** with oral squamous cell carcinoma (OSCC). To study the role of ***DMBT1*** gene in OSCC oncogenesis, we examined 9 OSCC derived cell lines and 45 primary OSCC tissue specimens with

respective normal tissues. Semi-quantitative reverse transcriptase chain reaction (RT-PCR) analysis revealed down-regulation or deletion of ***DMBT1*** expression in all of the 9 cell lines and in IS (40%) of 45 primary OSCC tissues. Additionally, 57 OSCC tissue specimens were examined by immunohistochemical staining of protein showing down-regulation of ***DMBT1*** protein in 31 (56.1%) of the 57 primary OSCC tissue specimens. To assess restoration of ***DMBT1*** expression by demethylation of promoter region, the 9 cell lines were ***treated*** with 5-aza-2-deoxycytidine (5-Aza-C), one of the DNA demethylating 7 agents. Six (66.7%) of 9 cell lines demonstrated restoration of ***DMBT1*** expression after 5-Aza-C ***treatment***. These results suggest that ***DMBT1*** gene is involved in OSCC oncogenesis and/or progression and that methylation of promoter region is one of the important mechanisms suppressing the ***DMBT1*** gene expression.

TI Down-regulation of ***DMBT1*** gene expression in human oral squamous cell carcinoma.

AB Deleted in malignant ***brain*** tumors 1 (***DMBT1***) gene was recently isolated on chromosome 10q25.3-26.1 and has been proposed as a putative candidate tumor suppressor for ***brain***, esophageal, gastric, colorectal, and lung cancer. However, little is known about the association of ***DMBT1*** with oral squamous cell carcinoma (OSCC). To study the role of ***DMBT1*** gene in OSCC oncogenesis, we examined 9 OSCC derived cell lines and 45 primary OSCC tissue specimens with respective normal tissues. Semi-quantitative reverse transcriptase chain reaction (RT-PCR) analysis revealed down-regulation or deletion of ***DMBT1*** expression in all of the 9 cell lines and in IS (40%) of 45 primary OSCC tissues. Additionally, 57 OSCC tissue specimens were examined by immunohistochemical staining of protein showing down-regulation of ***DMBT1*** protein in 31 (56.1%) of the 57 primary OSCC tissue specimens. To assess restoration of ***DMBT1*** expression by demethylation of promoter region, the 9 cell lines were ***treated*** with 5-aza-2-deoxycytidine (5-Aza-C), one of the DNA demethylating 7 agents. Six (66.7%) of 9 cell lines demonstrated restoration of ***DMBT1*** expression after 5-Aza-C ***treatment***. These results suggest that ***DMBT1*** gene is involved in OSCC oncogenesis and/or progression and that methylation of promoter region is one of the important mechanisms suppressing the ***DMBT1*** gene expression.

IT
(Biochemistry and Molecular Biophysics); Oncology (Human Medicine, Medical Sciences)

IT Parts, Structures, & Systems of Organisms
chromosome 10q25.3-26.1

IT Diseases
brain cancer: neoplastic disease, nervous system disease
Brain Neoplasms (MeSH)

IT Diseases
colorectal cancer: digestive system disease, neoplastic disease
Colorectal Neoplasms (MeSH)

IT Diseases
esophageal cancer: digestive system disease, . . .
cell carcinoma: dental and oral disease, neoplastic disease, genetics
Mouth Neoplasms (MeSH); Carcinoma, Squamous Cell (MeSH)

IT Chemicals & Biochemicals
5-aza-2-deoxycytidine; ***DMBT1*** protein: expression; DNA

GEN human ***DMBT1*** gene [human deleted in malianant ***brain***

tumors 1 gene] (Hominidae)

L28 ANSWER 4 OF 22 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2005:185524 BIOSIS <<LOGINID::20090423>>
DN PREV200500184920
TI The putative tumor suppressor deleted in malignant ***brain*** tumors
1 is an estrogen-regulated gene in rodent and primate endometrial
epithelium.
AU Tynan, Sharon; Pacia, Emmanuel; Haynes-Johnson, Donna; Lawrence, Danielle;
D'Andrea, Michael R.; Guo, Jian-Zhong; Lundeen, Scott; Allan, George
[Reprint Author]
CS Reprod Therapeut, Johnson and Johnson Pharmaceut res and Dev LLC, Room
B-115,1000 US Route 202 S,POB 300, Raritan, NJ, 08869, USA
gallan@prdus.jnj.com
SO Endocrinology, (March 2005) Vol. 146, No. 3, pp. 1066-1073. print.
CODEN: ENDOAO. ISSN: 0013-7227.
DT Article
LA English
ED Entered STN: 18 May 2005
Last Updated on STN: 18 May 2005
AB Deleted in malignant ***brain*** tumors 1 (***DMBT1***) is a
candidate suppressor of malignancies of the ***brain*** , lung, gut,
and breast. We have been studying gene expression in the uterus in the
presence of estrogens and their antagonists. Here, we show that
DMBT1 RNA levels are robustly increased by estrogen
treatment in the uteri of ovariectomized monkeys and rats. In
monkeys, the progestin antagonist mifepristone inhibits estrogen-dependent
uterine proliferation. As determined by a microarray experiment and
quantitative analysis of RNA levels, mifepristone inhibited estrogenic
induction of ***DMBT1*** . ***DMBT1*** was not expressed in intact
monkeys that were ***treated*** with a gonadotropin agonist to
suppress steroidogenesis. An in vitro transfection study with human
DMBT1 promoter constructs showed that an Alu site approximately
3000 nucleotides upstream of the gene mediates estrogenic regulation.
Surprisingly, the estrogen antagonists tamoxifen, raloxifene, and ICI
182,780 also induced gene expression via this Alu site. Rodents represent
a more convenient model system for studying uterine biology than monkeys.
In rats, uterine ***DMBT1*** RNA levels were dramatically up-regulated
by estrogen. Consistent with the transfection study, tamoxifen and
raloxifene increased ***DMBT1*** RNA levels in vivo, but ICI 182,780
inhibited an estrogen-induced increase. Immunohistochemical studies
showed that ***DMBT1*** is specifically induced in glandular and
luminal epithelia of the rat endometrium. Our experiments establish that
DMBT1 is an estrogen-responsive gene with a possible role in
endometrial proliferation or differentiation, and they have implications
for the putative tumor suppressive and mucosal protective functions of
DMBT1 in the uterus.
TI The putative tumor suppressor deleted in malignant ***brain*** tumors
1 is an estrogen-regulated gene in rodent and primate endometrial
epithelium.
AB Deleted in malignant ***brain*** tumors 1 (***DMBT1***) is a
candidate suppressor of malignancies of the ***brain*** , lung, gut,
and breast. We have been studying gene expression in the uterus in the
presence of estrogens and their antagonists. Here, we show that
DMBT1 RNA levels are robustly increased by estrogen
treatment in the uteri of ovariectomized monkeys and rats. In
monkeys, the progestin antagonist mifepristone inhibits estrogen-dependent

uterine proliferation. As determined by a microarray experiment and quantitative analysis of RNA levels, mifepristone inhibited estrogenic induction of ***DMBT1***. ***DMBT1*** was not expressed in intact monkeys that were ***treated*** with a gonadotropin agonist to suppress steroidogenesis. An in vitro transfection study with human ***DMBT1*** promoter constructs showed that an Alu site approximately 3000 nucleotides upstream of the gene mediates estrogenic regulation. Surprisingly, the estrogen. . . via this Alu site. Rodents represent a more convenient model system for studying uterine biology than monkeys. In rats, uterine ***DMBT1*** RNA levels were dramatically up-regulated by estrogen. Consistent with the transfection study, tamoxifen and raloxifene increased ***DMBT1*** RNA levels in vivo, but ICI 182,780 inhibited an estrogen-induced increase. Immunohistochemical studies showed that ***DMBT1*** is specifically induced in glandular and luminal epithelia of the rat endometrium. Our experiments establish that ***DMBT1*** is an estrogen-responsive gene with a possible role in endometrial proliferation or differentiation, and they have implications for the putative tumor suppressive and mucosal protective functions of ***DMBT1*** in the uterus.

IT . . .
 (Chemical Coordination and Homeostasis); Molecular Genetics
 (Biochemistry and Molecular Biophysics); Pharmacology; Tumor Biology
 IT Parts, Structures, & Systems of Organisms
 brain : nervous system; breast: reproductive system; gut:
 digestive system; lung: respiratory system; uterus: reproductive system
 IT Diseases
 brain tumors: neoplastic disease, nervous system disease
 Brain Neoplasms (MeSH)
 IT Chemicals & Biochemicals
 ICI 182,780: antiestrogen-drug, hormone-drug, pharmacodynamics; RNA;
 estrogens; mifepristone: antiestrogen-drug, hormone-drug,
 pharmacodynamics; raloxifene: antiestrogen-drug, hormone-drug, . . .
 GEN rat deleted in malignant ***brain*** tumors-1 gene [rat ***DMBT1***
] (Muridae)

L28 ANSWER 5 OF 22 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
 AN 2004:439268 BIOSIS <<LOGINID::20090423>>
 DN PREV200400438312

TI Homozygous deletion and expression of PTEN and ***DMBT1*** in human
 primary neuroblastoma and cell lines.
 AU Munoz, Jorge; Lazcoz, Paula; del Mar Inda, Maria; Nistal, Manuel; Pestana,
 Angel; Encio, Ignacio J.; Castresana, Javier S. [Reprint Author]
 CS Lab Neurooncol MolFac MedDept Genet, Univ Navarra, E-31080, Pamplona,
 Spain
 jscastresana@unav.es
 SO International Journal of Cancer, (May 1 2004) Vol. 109, No. 5, pp.
 673-679. print.
 CODEN: IJCNAA. ISSN: 0020-7136.

DT Article

LA English

ED Entered STN: 17 Nov 2004

Last Updated on STN: 17 Nov 2004

AB Neuroblastoma is the most common pediatric solid tumor. Although many allelic imbalances have been described, a bona fide tumor suppressor gene for this disease has not been found yet. In our study, we analyzed 2 genes, PTEN and ***DMBT1***, mapping 10q23.31 and 10q25.3-26.1, respectively, which have been found frequently altered in other kinds of

neoplasms. We screened both genes for homozygous deletions in 45 primary neuroblastic tumors and 12 neuroblastoma cell lines. Expression of these genes in cell lines was assessed by RT-PCR analysis. We could detect 2 of 41 (5%) primary tumors harboring PTEN homozygous deletions. Three of 41 (7%) primary tumors and 2 of 12 cell lines presented homozygous losses at the gl4 STS on the ***DMBTI*** locus. All cell lines analyzed expressed PTEN, but lack of ***DMBTI*** mRNA expression was detected in 2 of them. We tried to see whether epigenetic mechanisms, such as aberrant promoter hypermethylation, had any role in ***DMBTI*** silencing. The 2 cell lines lacking ***DMBTI*** expression were ***treated*** with 5-aza-2'-deoxycytidine; ***DMBTI*** expression was restored in only one of them (MC-IXC). From our work, we can conclude that PTEN and ***DMBTI*** seem to contribute to the development of a small fraction of neuroblastomas, and that promoter hypermethylation might have a role in ***DMBTI*** gene silencing. Copyright 2004 Wiley-Liss, Inc.

- TI Homozygous deletion and expression of PTEN and ***DMBT1*** in human primary neuroblastoma and cell lines.
- AB. . . tumor suppressor gene for this disease has not been found yet. In our study, we analyzed 2 genes, PTEN and ***DMBTI***, mapping 10q23.31 and 10q25.3-26.1, respectively, which have been found frequently altered in other kinds of neoplasms. We screened both genes. . . of 41 (7%) primary tumors and 2 of 12 cell lines presented homozygous losses at the gl4 STS on the ***DMBTI*** locus. All cell lines analyzed expressed PTEN, but lack of ***DMBTI*** mRNA expression was detected in 2 of them. We tried to see whether epigenetic mechanisms, such as aberrant promoter hypermethylation, had any role in ***DMBTI*** silencing. The 2 cell lines lacking ***DMBTI*** expression were ***treated*** with 5-aza-2'-deoxycytidine; ***DMBTI*** expression was restored in only one of them (MC-IXC). From our work, we can conclude that PTEN and ***DMBTI*** seem to contribute to the development of a small fraction of neuroblastomas, and that promoter hypermethylation might have a role in ***DMBTI*** gene silencing. Copyright 2004 Wiley-Liss, Inc.
- IT . . . chromosome 10, q23.31, q25.3-26.1; primary tumors, pediatric
- IT Diseases
neuroblastoma: neoplastic disease, nervous system disease, diagnosis, epidemiology, etiology, genetics, pathology, ***prevention*** and control, symptom
Neuroblastoma (MeSH)
- IT Chemicals & Biochemicals
deleted in malignant ***brain*** tumors-1 locus [***DMBT1*** locus]: gl4 sequence-tagged site; m-RNA [messenger RNA]: expression
- IT Methods & Equipment
5-aza-2'-deoxycytidine ***treatment*** : laboratory techniques; gene analysis: genetic techniques, laboratory techniques; gene mapping: genetic techniques, laboratory techniques; gene screening: genetic techniques, laboratory techniques; primary neuroblastic tumors: laboratory equipment; real time-polymerase chain reaction analysis [RT-PCR analysis]: genetic techniques, laboratory techniques
- IT Miscellaneous Descriptors
DMBTI gene silencing; aberrant promoter hypermethylation: epigenetic mechanism, role; homozygous deletions
- GEN human ***DMBTI*** gene (Hominidae): expression, silencing; human PTEN gene (Hominidae): expression

L28 ANSWER 6 OF 22 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2004:221390 BIOSIS <<LOGINID::20090423>>
DN PREV200400224388
TI Site-characteristic expression and induction of trefoil factor family 1, 2
and 3 and malignant ***brain*** tumor-1 in normal and diseased
intrahepatic bile ducts relates to biliary pathophysiology.
AU Sasaki, Motoko; Tsuneyama, Koichi; Saito, Takahito; Kataoka, Hiroaki;
Mollenhauer, Jan; Poustka, Annemarie; Nakanuma, Yasuni [Reprint Author]
CS Department of Human Pathology, Kanazawa University Graduate School of
Medicine, Kanazawa, 920-8640, Japan
SO Liver International, (February 2004) Vol. 24, No. 1, pp. 29-37. print.
ISSN: 1478-3223 (ISSN print).
DT Article
LA English
ED Entered STN: 21 Apr 2004
Last Updated on STN: 21 Apr 2004
AB Background/Aim: Trefoil factor family (TFF)1,2,3 are involved in a
homeostasis/repair process of mucosal epithelia. In this study, the
significance of TFF family and deleted in the malignant ***brain***
tumor-1 (***DMBT1***), a putative receptor of TFF2, in the
intrahepatic biliary tree was investigated in normal and diseased livers.
Materials and Methods: Expression of TFF1,2,3 and ***DMBT1*** were
examined immunohistochemically in primary biliary cirrhosis (PBC), primary
sclerosing cholangitis (PSC), chronic viral hepatitis (CVH), extrahepatic
biliary obstruction (EBO), and normal livers. Results: In normal livers,
TFF1,3 and ***DMBT1*** were infrequently detectable in large and
rarely in small bile ducts, respectively. TFF2 was not detectable in
large bile ducts. In large bile duct diseases (PSC and EBO), expression
of TFF3 and ***DMBT1*** were increased. In small bile duct diseases
(PBC and CVH), expression of TFF2/ ***DMBT1*** was induced in
moderately to severely damaged ducts irrespective of etiology.
Conclusion: The intrahepatic biliary tree shows a site-characteristic
expression and induction of TFF1,2,3 and ***DMBT1*** . In large bile
ducts, TFF1,3 were constitutively expressed and increased in pathologic
bile ducts. In small bile ducts, TFF2/ ***DMBT1*** is induced in
damaged ducts irrespective of etiologies. However, the
cytoprotective/repair property of TFF2/ ***DMBT1*** may not be enough
to ***prevent*** the following bile duct loss in PBC.
TI Site-characteristic expression and induction of trefoil factor family 1, 2
and 3 and malignant ***brain*** tumor-1 in normal and diseased
intrahepatic bile ducts relates to biliary pathophysiology.
AB. . . in a homeostasis/repair process of mucosal epithelia. In this
study, the significance of TFF family and deleted in the malignant
brain tumor-1 (***DMBT1***), a putative receptor of TFF2, in
the intrahepatic biliary tree was investigated in normal and diseased
livers. Materials and Methods: Expression of TFF1,2,3 and ***DMBT1***
were examined immunohistochemically in primary biliary cirrhosis (PBC),
primary sclerosing cholangitis (PSC), chronic viral hepatitis (CVH),
extrahepatic biliary obstruction (EBO), and normal livers. Results: In
normal livers, TFF1,3 and ***DMBT1*** were infrequently detectable in
large and rarely in small bile ducts, respectively. TFF2 was not
detectable in large bile ducts. In large bile duct diseases (PSC and
EBO), expression of TFF3 and ***DMBT1*** were increased. In small
bile duct diseases (PBC and CVH), expression of TFF2/ ***DMBT1*** was
induced in moderately to severely damaged ducts irrespective of etiology.
Conclusion: The intrahepatic biliary tree shows a site-characteristic
expression and induction of TFF1,2,3 and ***DMBT1*** . In large bile

ducts, TFF1,3 were constitutively expressed and increased in pathologic bile ducts. In small bile ducts, TFF2/ ***DMBT1*** is induced in damaged ducts irrespective of etiologies. However, the cytoprotective/repair property of TFF2/ ***DMBT1*** may not be enough to ***prevent*** the following bile duct loss in PBC.

IT . . .
Biliary (MeSH)

IT Diseases
primary sclerosing cholangitis: digestive system disease
Cholangitis, Sclerosing (MeSH)

IT Chemicals & Biochemicals
deleted in the malignant ***brain*** tumor-1 [***DMBT1***]:
expression, regulation; trefoil factor family 1: expression,
regulation; trefoil factor family 2: expression, regulation; trefoil
factor family 3: expression, regulation

L28 ANSWER 7 OF 22 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
AN 2000:69895 BIOSIS <<LOGINID::20090423>>
DN PREV200000069895

TI The genomic structure of the ***DMBT1*** gene: Evidence for a region
with ***susceptibility*** to genomic instability.

AU Mollenhauer, J. [Reprint author]; Holmskov, U.; Wiemann, S.; Krebs, I.;
Herbertz, S.; Madsen, J.; Kioschis, P.; Coy, J. F.; Poustka, A.

CS Department of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
Im Neuenheimer Feld 280, 69120, Heidelberg, Germany

SO Oncogene, (Nov. 4, 1999) Vol. 18, No. 46, pp. 6233-6240. print.
CODEN: ONCNES. ISSN: 0950-9232.

DT Article

LA English

ED Entered STN: 9 Feb 2000

Last Updated on STN: 3 Jan 2002

AB Increasing evidence has accumulated for an involvement of the inactivation
of tumour suppressor genes at chromosome 10q in the carcinogenesis of
brain tumours, melanomas, and carcinomas of the lung, the
prostate, the pancreas, and the endometrium. The gene ***DMBT1***
(Deleted in Malignant ***Brain*** Tumours 1) is located at chromosome
10q25.3-q26.1, within one of the putative intervals for tumour suppressor
genes. ***DMBT1*** is a member of the scavenger-receptor
cysteine-rich (SRCR) superfamily and displays homozygous deletions or lack
of expression in glioblastoma multiforme, medulloblastoma, and in
gastrointestinal and lung cancers. Based on these properties,
DMBT1 has been proposed to be a candidate tumour suppressor gene.
We have determined the genomic sequence of ***DMBT1*** to allow
analyses of mutations. The gene has at least 54 exons that span a genomic
region of about 80 kb. We have identified a putative exon with coding
potential for a transmembrane domain. Our data further suggest that
alternative splicing gives rise to isoforms of ***DMBT1*** with a
differential utilization of SRCR domains and SRCR interspersed domains.
The major part of the gene harbours locus specific repeats. These repeats
may point to the ***DMBT1*** locus as a region ***susceptible***
to chromosomal instability.

TI The genomic structure of the ***DMBT1*** gene: Evidence for a region
with ***susceptibility*** to genomic instability.

AB. . . evidence has accumulated for an involvement of the inactivation of
tumour suppressor genes at chromosome 10q in the carcinogenesis of
brain tumours, melanomas, and carcinomas of the lung, the
prostate, the pancreas, and the endometrium. The gene ***DMBT1***

(Deleted in Malignant ***Brain*** Tumours 1) is located at chromosome 10q25.3-q26.1, within one of the putative intervals for tumour suppressor genes. ***DMBT1*** is a member of the scavenger-receptor cysteine-rich (SRCR) superfamily and displays homozygous deletions or lack of expression in glioblastoma multiforme, medulloblastoma, and in gastrointestinal and lung cancers. Based on these properties, ***DMBT1*** has been proposed to be a candidate tumour suppressor gene. We have determined the genomic sequence of ***DMBT1*** to allow analyses of mutations. The gene has at least 54 exons that span a genomic region of about 80. . . exon with coding potential for a transmembrane domain. Our data further suggest that alternative splicing gives rise to isoforms of ***DMBT1*** with a differential utilization of SRCR domains and SRCR interspersed domains. The major part of the gene harbours locus specific repeats. These repeats may point to the ***DMBT1*** locus as a region ***susceptible*** to chromosomal instability.

IT . . .
 IT Neoplasms (MeSH)
 IT Diseases
 medulloblastoma: neoplastic disease, nervous system disease, tumor development
 Medulloblastoma (MeSH)
 IT Chemicals & Biochemicals
 deleted in malignant ***brain*** tumors 1 gene [***DMBT*** -1 gene]: genomic instability region evidence, genomic structure, nucleotide sequence, tumor development role, tumor expression

L28 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2007:1064219 CAPLUS <<LOGINID::20090423>>

DN 147:383999

TI Detection of gene expression by specific cell types in mixed samples or tissues such as mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping)

IN Petrie, Howard T.

PA USA

SO PCT Int. Appl., 257pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2007106507	A2	20070920	WO 2007-US6363	20070314
	WO 2007106507	A3	20090205		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
	RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA			
PRAI	US 2006-782124P	P	20060314		

AB Differential gene expression mapping (DGEM) utilizes (1) laser capture microdissection or other methods of microdissection of the tissue regions of interest; (2) microarray screening of RNA isolated from the microdissected regions and anal. of purified individual cellular components from the tissue; and (3) computational profiling or subtraction to identify gene expression by specific cell types in situ. The method was applied to stromal cells from whole cortical and medullary regions of C57BL6 mouse thymus. As a result, DGEM, a reverse identification approach, solves previously insurmountable problems, as the lymphoid progenitors can be readily isolated, allowing fluctuations in receptor expression on lymphoid cells to be used to predict stratified stromal signals. An algorithmic approach can be used for calcg. the expression profile of a tissue/sample of interest that consists of at least two types of cells. Specifically, the approach electronically subtracts the expression profile of one component of a sample from the expression profile of the total sample, thus revealing the profiles of the other component. To confirm the robustness of the DGEM procedure, the gene expression profiles from each sample of whole medulla, whole cortex, cortical thymocytes and medullary thymocytes was sorted based only on the expression data.

IT Proteins
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Bicaudal ***C*** homolog 1; detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

IT Interleukin ***17*** receptors
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (C; detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

IT Proteins
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***CAAX*** box I homolog C; detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

IT Proteins
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***CABLES1*** (Cdk5 and Abl enzyme substrate 1); detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

IT Proteins
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***CAP*** (adenylate cyclase-assocd. protein); detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

IT Proteins
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***DMBT1*** ; detection of gene expression by specific cell types in mixed samples or tissues using DGEM (differential gene expression mapping))

IT ***Proteins***

RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EPS (epidermal growth factor receptor pathway substrate); detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

IT Proteins
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Friend virus ***susceptibility*** 4; detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

IT Proteins
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Ras homolog enriched in ***brain*** -like 1; detection of gene expression by stromal cells in mouse thymus cortex or medullary stromal cells using DGEM (differential gene expression mapping))

L28 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2007:117791 CAPLUS <<LOGINID::20090423>>
 DN 146:203915
 TI Gene expression profile for diagnosing small cell lung cancer, discriminating from non-small cell lung cancer, and assessing chemotherapy-resistant lung cancer
 IN Nakamura, Yusuke; Daigo, Yataro; Nakatsuru, Shuichi
 PA Oncotherapy Science, Inc., Japan; The University of Tokyo
 SO PCT Int. Appl., 215pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2007013665	A2	20070201	WO 2006-JP315254	20060726
	WO 2007013665	A3	20070705		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
	RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA			
	EP 1907581	A2	20080409	EP 2006-782127	20060726
	R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR			
	JP 2009502115	T	20090129	JP 2008-503310	20060726
	CN 101283106	A	20081008	CN 2006-80035744	20080327
PRAI	US 2005-703192P	P	20050727		
	US 2006-799961P	P	20060511		
	WO 2006-JP315254	W	20060726		
AB	Methods for detecting and diagnosing small cell lung cancer (SCLC) are described. In one embodiment, the diagnostic method involves detg. the				

expression level of an SCLC-assocd. gene that discriminates between SCLC cells and normal cells. In another embodiment, the diagnostic method involves detg. the expression level of an SCLC-assocd. gene that distinguishes two major histol. types of lung cancer, i.e., non-small cell lung cancer (NSCLC) and SCLC. Finally, the present invention provides methods of screening for therapeutic agents useful in the

****treatment*** of small cell lung cancer, methods of ****treating*** small cell lung cancer, and methods for vaccinating a subject against small cell lung cancer. Furthermore, the present invention provides chemotherapy-resistant lung cancer- or SCLC-assocd. genes as diagnostic markers and/or mol. targets for therapeutic agent for these cancers. These genes are up-regulated in chemoresistant lung cancer or SCLC. Accordingly, chemoresistant lung cancer or SCLC can be predicted using expression level of the genes as diagnostic markers. As the result, any adverse effects caused by ineffective chemotherapy can be avoided, and more suitable and effective therapeutic strategy can be selected.

AB . . . cell lung cancer (NSCLC) and SCLC. Finally, the present invention provides methods of screening for therapeutic agents useful in the ****treatment*** of small cell lung cancer, methods of ****treating*** small cell lung cancer, and methods for vaccinating a subject against small cell lung cancer. Furthermore, the present invention provides. . .

IT Proteins

RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); USES (Uses)
(****DMBT1*** , gene for, diagnosis of lung cancer; gene expression profile for diagnosing and discriminating small cell lung cancer and assessing chemotherapy-resistant lung cancer)

IT Proteins

RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); USES (Uses)
(autism ****susceptibility*** candidate 2, gene for, diagnosis of lung cancer; gene expression profile for diagnosing and discriminating small cell lung cancer and assessing chemotherapy-resistant lung cancer)

IT Angiogenic factors

RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); USES (Uses)
(****brain*** specific angiogenesis inhibitor, 3, gene for, diagnosis of lung cancer; gene expression profile for diagnosing and discriminating small cell lung cancer and assessing chemotherapy-resistant lung cancer)

IT Proteins

RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); USES (Uses)
(cancer ****susceptibility*** candidate 5, gene for, diagnosis of lung cancer; gene expression profile for diagnosing and discriminating small cell lung cancer and assessing chemotherapy-resistant lung cancer)

IT Antigens

RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); USES (Uses)
(lupus ****brain*** antigen 1, gene for, diagnosis of lung cancer; gene expression profile for diagnosing and discriminating small cell lung cancer and assessing chemotherapy-resistant lung cancer)

AN 2005:1292937 CAPLUS <<LOGINID::20090423>>
 DN 145:21938
 TI Genetic analysis of human glioblastomas using a genomic microarray system
 AU Suzuki, Tsuyoshi; Maruno, Motohiko; Wada, Kouichi; Kagawa, Naoki;
 Fujimoto, Yasunori; Hashimoto, Naoya; Izumoto, Shuichi; Yoshimine, Toshiki
 CS Department of Neurosurgery, Osaka University Graduate School of Medicine,
 2-2 Yamadaoka, Suita, Osaka, 565-0871, Japan
 SO Brain Tumor Pathology (2004), 21(1), 27-34
 CODEN: BTPAFM; ISSN: 1433-7398
 PB Springer Tokyo
 DT Journal
 LA English
 AB Genomic microarray systems can simultaneously provide substantial genetic
 and chromosomal information in a relatively short time. We have analyzed
 genomic DNA from frozen sections of 30 cases of primary glioblastomas by
 GenoSensor Array 300 in order to characterize gene amplifications, gene
 deletions, and chromosomal information in the whole genome. Genes that
 were frequently amplified included RFC2/CYLN2 (63.3%), EGFR (53.3%), IL6
 (53.3%), ABCB1 (MDR1) (36.7%), and PDGFRA (26.7%). Genes that were
 frequently deleted included FGFR2 (66.7%), MTAP (60.0%), ***DMBT1***
 (56.7%), CDKN2A (p16)/MTAP (50.0%), PIK3CA (43.3%), and EGR2 (43.3%), but
 deletion of RB1 or TP53 was rarely detected. Chromosomal gains were obsd.
 frequently for 7q (33.3%), 7p (20.0%), and 17q (13.3%). Loss of the 10q
 was frequently detected in 13 of 30 cases (46.7%). Loss of the entire
 chromosome 10 was seen in 9 of 30 cases (30.0%), and was often accompanied
 by EGFR amplification (7 cases, 77.8%). The GenoSensor Array 300 proved
 to be useful for identification of genome-wide mol. changes in
 glioblastomas. The obtained microarray profile can also yield valuable
 insight into the mol. events underlying carcinogenesis of ***brain***
 tumors and may provide clues about clin. correlations, including response
 to ***treatment*** .
 RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT
 AB . . . EGFR (53.3%), IL6 (53.3%), ABCB1 (MDR1) (36.7%), and PDGFRA
 (26.7%). Genes that were frequently deleted included FGFR2 (66.7%), MTAP
 (60.0%), ***DMBT1*** (56.7%), CDKN2A (p16)/MTAP (50.0%), PIK3CA
 (43.3%), and EGR2 (43.3%), but deletion of RB1 or TP53 was rarely
 detected. Chromosomal gains. . . mol. changes in glioblastomas. The
 obtained microarray profile can also yield valuable insight into the mol.
 events underlying carcinogenesis of ***brain*** tumors and may provide
 clues about clin. correlations, including response to ***treatment*** .
 IT Gene, animal
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (***DMBT1*** , deletion; genetic anal. of human glioblastomas using
 a genomic microarray system)
 L28 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2005:1240544 CAPLUS <<LOGINID::20090423>>
 DN 144:2843
 TI Method and kit for detecting components in a sample
 IN Ramael, Marc
 PA Belg.
 SO PCT Int. Appl., 76 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005111619	A1	20051124	WO 2004-EP4547	20040429
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1740951	A1	20070110	EP 2004-730243	20040429
	EP 1740951	B1	20080305		
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	JP 2007534948	T	20071129	JP 2007-509881	20040429
	AT 388404	T	20080315	AT 2004-730243	20040429
	US 20080269064	A1	20081030	US 2006-587710	20061026
PRAI	WO 2004-EP4547	W	20040429		

AB The present invention relates to methods and kit for use in the detection of a component in a sample on a solid support, comprising the use of a conjugate and polymer comprising metal particles of diam. in the nanometer range (i.e. between 0.1 and 500 nm). It further relates to methods and kit for use in the detection of a component in a sample on a solid support, comprising the use of conjugate and optionally polymer bound to one or more supermagnetic particles. It further relates to methods and kit for use in enhancing in vivo imaging and microscopy. Microarrays were printed using specific oligonucleotides detecting HPV 16, HPV18, HPV 31, HPV 33, HPV 35, HPV 52 and HPV 58. The hybridization assay was set up using PCR amplified HPV DNA. During the PCR reaction, the amplification product was labeled using a biotin labeled primer. Slides were visualized by ***treatment*** with streptavidin labeled with gold particles ranging from 0.8 nm to 40 nm and signal amplification with dextran polymer or poly-L-lysine polymer coated with numerous biotin mols., anti-biotin antibody or streptavidin labeled with gold nanoparticles, and metal enhancement. Hybridized microarrays showed areas with very sharp black or red colored spots in some areas depending on the used substrate. Other areas did not show any signal. Background signal was completely absent.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB . . . HPV DNA. During the PCR reaction, the amplification product was labeled using a biotin labeled primer. Slides were visualized by ***treatment*** with streptavidin labeled with gold particles ranging from 0.8 nm to 40 nm and signal amplification with dextran polymer or. .

IT Proteins

RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***DMBT1*** ; kit and method using solid support, conjugate and polymer comprising metal particles for detecting components in samples)

IT Neurotrophic factors

RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***brain*** -derived; kit and method using solid support, conjugate

and polymer comprising metal particles for detecting components in samples)

IT DNA microarray technology
Diagnosis
Environmental analysis
Food analysis
Human
Imaging
Immunohistochemistry
Microscopy
Nucleic acid hybridization
PCR (polymerase chain reaction)
Solids
Staining, biological
Susceptibility (genetic)
Test kits
(kit and method using solid support, conjugate and polymer comprising metal particles for detecting components in samples)

L28 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:984188 CAPLUS <<LOGINID::20090423>>
DN 143:284092
TI Gene expression profiles for breast cancer prognostics
IN Wang, Yixin
PA Veridex, LLC, USA
SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2005083429	A2	20050909	WO 2005-US5711	20050218
	WO 2005083429	A3	20060713		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 20050186577	A1	20050825	US 2004-783271	20040220
	CA 2556890	A1	20050909	CA 2005-2556890	20050218
	EP 1721159	A2	20061115	EP 2005-732080	20050218
	R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU			
	CN 1950701	A	20070418	CN 2005-80012425	20050218
	JP 2007528218	T	20071011	JP 2006-554314	20050218
	MX 2006009545	A	20070307	MX 2006-9545	20060821
PRAI	US 2004-783271	A	20040220		
	US 2004-634430P	P	20041208		
	WO 2005-US5711	W	20050218		

AB A method of providing a prognosis of breast cancer is conducted by analyzing the expression of a group of genes. Using Affymetrix Human U133a GeneChips, the expression of 22,000 transcripts was analyzed using total RNA of frozen tumor samples from 286 lymph node neg. (LNN) breast cancer patients of all age-groups and tumor sizes who did not receive adjuvant systemic ***treatment***. Genome-wide measures of gene expression identified patterns of gene activity that subclassify tumors and provide an improved means for individual risk assessment in patients with LNN breast cancer. A 76-gene signature is provided that accurately predicts distant tumor recurrence and is applicable to all LNN breast cancer patients independently of age, tumor size and grade, and estrogen receptor status. The signature shows 88% sensitivity and 41% specificity. Applying univariate Cox's regression anal. to the data to obtain selected genes, and applying weighted expression levels to the selected genes with std. Cox's coeffs. provide a prediction model that can be applied as a Relapse Hazard Score. Twenty-one pathways over-represented in the 76 gene signature were also found in all the other prognostic signatures, suggesting that common biol. pathways are involved in tumor recurrence.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB . . . 286 lymph node neg. (LNN) breast cancer patients of all age-groups and tumor sizes who did not receive adjuvant systemic ***treatment***. Genome-wide measures of gene expression identified patterns of gene activity that subclassify tumors and provide an improved means for individual. . .

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)
(BAI3 (***brain*** -specific angiogenesis inhibitor 3); gene expression profiles for breast cancer prognostics)

IT Gene, animal
Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)
(***DMBT1*** ; gene expression profiles for breast cancer prognostics)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL (Biological study); USES (Uses)
(RHEB2 (Ras homolog enriched in ***brain*** 2); gene expression profiles for breast cancer prognostics)

L28 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:953991 CAPLUS <<LOGINID::20090423>>

DN 143:260332

TI Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents

IN Mollenhauer, Jan; End, Caroline; Blaich, Stephanie; Bergmann, Gaby; Renner, Marcus; Lyer, Stefan; Wittig, Rainer; Poustka, Annemarie; Bikker, Floris; Ligtenberg, Anton; Nieuw-Amerongen, Arie; Veerman, Enno

PA Deutsches Krebsforschungszentrum Stiftung des Oeffentlichen Rechts, Germany

SO Eur. Pat. Appl., 57 pp.
CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1568374	A1	20050831	EP 2004-4281	20040225
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	WO 2005079834	A1	20050901	WO 2005-EP1994	20050225
	WO 2005079834	A9	20051027		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1727558	A1	20061206	EP 2005-732131	20050225
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080234185	A1	20080925	US 2006-590657	20060825
PRAI	EP 2004-4281	A	20040225		
	WO 2005-EP1994	W	20050225		
AB	<p>Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the ***treatment*** of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. ***DMBT1*** may also be used as a diagnostic for diagnosing the ***susceptibility*** of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or ***treatment*** of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant ***Brain*** Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and cancer-causing sulfated carbohydrates) and self structures (DNA, phospholipids, cell surface and extracellular matrix carbohydrates), which interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human ***susceptibility*** to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased ***susceptibility*** and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.</p>				
RE.CNT	7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD				
	ALL CITATIONS AVAILABLE IN THE RE FORMAT				
TI	Use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-associated agents				
AB	<p>Disclosed is the use of ***DMBT1*** , or of the nucleic acid encoding it, for the manuf. of a medicament for the ***treatment*** of a patient suffering from a disease caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate</p>				

group. ***DMBT1*** may also be used as a diagnostic for diagnosing the ***susceptibility*** of an individual to sulfate or phosphate groups, as well in methods for diagnosis, prophylaxis or ***treatment*** of diseases caused by an agent which possesses at least one accessible sulfate and/or at least one accessible phosphate group. The invention is based on the discovery that human protein ***DMBT1*** (Deleted in Malignant ***Brain*** Tumors 1) is a dual-specific pattern recognition receptor for non-self (bacterial cell wall components, gp120 of HIV, damage-, inflammation-, and. . . interacts with accessible sulfate and or phosphate groups, which are present on numerous compds., compns., and organisms. Pattern recognition of ***DMBT1*** is mediated via an 11-amino acid motif (GRVEVLYRGSW) that binds sulfate and phosphate groups. By acting as a dual-specific PRR, ***DMBT1*** may exert a general insulator function against a broad range of pathogens, which predicts a contribution of ***DMBT1*** germline deletions to human ***susceptibility*** to infection, inflammation, and cancer. Furthermore, a 40% decreased level of ***DMBT1*** in male mice correlates with an increased ***susceptibility*** and with a deficient protection against dextran sulfate sodium-induced tissue damage and inflammation in the colon.

- ST
 - ***DMBT1*** protein phosphate sulfate group capture; diagnosis
 - ***DMBT1*** protein phosphate sulfate group; infection therapy
 - ***DMBT1*** protein phosphate sulfate group; inflammation therapy
 - ***DMBT1*** protein phosphate sulfate group; cancer therapy
 - ***DMBT1*** protein phosphate sulfate group
- IT Proteins
 - RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (***DMBT1*** ; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)
- IT Inflammation
 - (acute; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)
- IT Klebsiella pneumoniae
 - Salmonella minnesota
 - Salmonella typhimurium
 - (binding to lipopolysaccharide of; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)
- IT Cosmetics
 - Drugs
 - Food
 - (binding to phosphate and/or sulfate groups in; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)
- IT Inflammation
 - (chronic; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)
- IT Blood analysis
 - Body fluid
 - Saliva
 - Semen
 - (detection of disease agents in; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)
- IT cDNA sequences
 - (for human protein ***DMBT1*** ; use of ***DMBT1*** protein for

capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Envelope proteins
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (gp120env, HIV; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Intestine, disease
 (inflammatory; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Diagnosis
 (mol.; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Protein sequences
 (of human protein ***DMBT1*** ; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Functional groups
 (sulfate; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Carbohydrates, biological studies
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (sulfates; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Mucins
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (sulfomucin; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Inflammation
 Intestine, disease
 (ulcerative colitis; use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT Anti-infective agents
 Anti-inflammatory agents
 Antitumor agents
 Bacillus (bacterium genus)
 Digestive tract, neoplasm
 Escherichia
 Eubacteria
 Helicobacter
 Human
 Infection
 Microorganism
 Neoplasm
 Phosphate group
 Prophylaxis
 Respiratory system, neoplasm
 Salmonella
 Staphylococcus
 Streptococcus
 Virus
 (use of ***DMBT1*** protein for capturing sulfate and phosphate groups exposed in disease-assocd. agents)

IT DNA
 Deoxyribonucleotides
 Lipopolysaccharides
 Phosphatidylcholines, biological studies
 Phospholipids, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (use of ***DMBT1*** protein for capturing sulfate and phosphate
 groups exposed in disease-assocd. agents)

IT 9041-38-7D, Teichoic acid, lipo-
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (Lipoteichoic acid; use of ***DMBT1*** protein for capturing
 sulfate and phosphate groups exposed in disease-assocd. agents)

IT 863488-17-9
 RL: BSU (Biological study, unclassified); PRP (Properties); THU
 (Therapeutic use); BIOL (Biological study); USES (Uses)
 (active binding site; use of ***DMBT1*** protein for capturing
 sulfate and phosphate groups exposed in disease-assocd. agents)

IT 863526-17-4, Protein ***DMBT1*** (human)
 RL: BSU (Biological study, unclassified); PRP (Properties); THU
 (Therapeutic use); BIOL (Biological study); USES (Uses)
 (amino acid sequence; use of ***DMBT1*** protein for capturing
 sulfate and phosphate groups exposed in disease-assocd. agents)

IT 863526-16-3, DNA (human protein ***DMBT1*** cDNA)
 RL: BSU (Biological study, unclassified); PRP (Properties); THU
 (Therapeutic use); BIOL (Biological study); USES (Uses)
 (nucleotide sequence; use of ***DMBT1*** protein for capturing
 sulfate and phosphate groups exposed in disease-assocd. agents)

IT 863526-21-0 863526-22-1 863526-23-2 863526-24-3 863526-25-4
 863526-26-5
 RL: PRP (Properties)
 (unclaimed nucleotide sequence; use of ***DMBT1*** protein for
 capturing sulfate and phosphate groups exposed in disease-assocd.
 agents)

IT 7757-82-6, Disodium sulfate, biological studies 9000-07-1, Carrageenan
 9007-28-7, Chondroitin sulfate 9011-18-1, Dextran sulfate sodium
 9050-30-0
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (use of ***DMBT1*** protein for capturing sulfate and phosphate
 groups exposed in disease-assocd. agents)

L28 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:216606 CAPLUS <<LOGINID::20090423>>

DN 142:292452

TI Compns. and methods for ***treating*** and diagnosing chronic visceral
 hypersensitivity and irritable bowel syndrome, based on differential gene
 or protein expression

IN Pasricha, Pankaj; Shenoy, Mohan; Winston, John

PA Cytokine Pharmasciences, Inc., USA

SO PCT Int. Appl., 181 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005020902	A2	20050310	WO 2004-US27356	20040823
	WO 2005020902	A3	20060727		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,			
		CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,			
		GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,			
		LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,			
		NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,			

TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG

US 20050130189 A1 20050616 US 2004-923035 20040823
PRAI US 2003-496716P P 20030821

AB Compns. and methods for diagnosing and ***treating*** chronic visceral hypersensitivity (CVH) and CVH-assocd. disorders, such as irritable bowel syndrome, are disclosed. Genes differentially expressed in CVH tissues relative to normal tissues are identified. The genes and the gene products (i.e., the transcribed polynucleotides and polypeptides encoded by the genes) can be used as markers of CVH. The genes and the gene products can also be used to screen agents that modulate the gene expression or the activities of the gene products. The examples discuss the effects of acetic acid sensitization and CNI1493 ***treatment*** on the colon and S1 dorsal root ganglia in a rat model of visceral hypersensitivity. Gene expression profiles assocd. with these ***treatments*** are presented, and rat CVH-related genes and polypeptides are identified.

TI Compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on differential gene or protein expression

AB Compns. and methods for diagnosing and ***treating*** chronic visceral hypersensitivity (CVH) and CVH-assocd. disorders, such as irritable bowel syndrome, are disclosed. Genes differentially expressed in CVH tissues. . . gene expression or the activities of the gene products. The examples discuss the effects of acetic acid sensitization and CNI1493 ***treatment*** on the colon and S1 dorsal root ganglia in a rat model of visceral hypersensitivity. Gene expression profiles assocd. with these ***treatments*** are presented, and rat CVH-related genes and polypeptides are identified.

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH

ST ***treatment*** diagnosis irritable bowel syndrome chronic visceral hypersensitivity; sequence protein gene expression profile chronic visceral hypersensitivity rat; chronic visceral hypersensitivity diagnosis. . .

IT Tropomyosins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (1, .alpha.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Kinesins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (1C; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Synaptobrevins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Cyclin dependent kinase inhibitors

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (2B; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Tropomyosins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (3, .gamma.-; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Ankyrins
Calmodulins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Aquaporins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (7, sequence homolog; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Aquaporins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (8; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ABC (ATP-binding cassette) transporters, 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ABC (ATP-binding cassette) transporters, subfamily B (MDR1TAP), member 11; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ABCC9 (ATP-binding cassette transporter sub-family C, member 9); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ADAMTS1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ADP ribosylation-like 4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Cytokines
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (AIF-1 (allograft inflammatory factor 1); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Aquaporins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (AQP3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ARGBP2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT G proteins (guanine nucleotide-binding proteins)
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ARL (ADP-ribosylation factor-like), ARL6; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ARNT (aryl hydrocarbon receptor nuclear translocator), sequence homolog; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Aa2-277; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Acta2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Actg2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(Add3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Amigo2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Arg/Ab1-interacting, ArgBP2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (BC019836; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (BDNF; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Best5; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (C/EBP-.delta. (CCAAT box/enhancer element-binding protein .delta.); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT CD antigens
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (CD9; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (CDK104; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (CLASP2 (CLIP-assocg. protein 2); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and

irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (CREB (cAMP-responsive element-binding), 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (CTD-binding SR-like protein rA4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT mRNA
 RL: ANT (Analyte); ANST (Analytical study) (CVH-related, differentially expressed; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 Proteins
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (CVH-related; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Camk2g; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT DNA
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Cas-Br-M (murine) ectopic retroviral transforming sequence b; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Casq2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Cd9; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Cdkn1b; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP

(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Ceacam1; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Cebpd; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Chloride channel
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Clc-2; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Csrp1; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Ctll; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Cxcl12; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DAMP-1; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(***DMBT1*** ; compns. and methods for ***treating*** and
diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT mRNA
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DNA damage-inducible transcript 3; compns. and methods for
treating and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Des; compns. and methods for ***treating*** and diagnosing chronic
visceral hypersensitivity and irritable bowel syndrome, based on gene

or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Desmuslin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Dgkb; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Dmrs91; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ECM1 (extracellular matrix protein 1); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (EEF2k; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Evt1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Exo70; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (FBXL22; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (FGR; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP

(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Fnl; compns. and methods for ***treating*** and diagnosing chronic
visceral hypersensitivity and irritable bowel syndrome, based on gene
or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Fxyde; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Cyclins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(G1; compns. and methods for ***treating*** and diagnosing chronic
visceral hypersensitivity and irritable bowel syndrome, based on gene
or protein expression profiles)

IT GABA receptors
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GABAA, .delta.; compns. and methods for ***treating*** and
diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GBP2; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GTP cyclohydrolase I feedback regulatory protein; compns. and methods
for ***treating*** and diagnosing chronic visceral hypersensitivity
and irritable bowel syndrome, based on gene or protein expression
profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Gch; compns. and methods for ***treating*** and diagnosing chronic
visceral hypersensitivity and irritable bowel syndrome, based on gene
or protein expression profiles)

IT Histones
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(H1.0; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Histones
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(H2B, sequence homolog; compns. and methods for ***treating*** and
diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT Histones
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(H4, germinal; compns. and methods for ***treating*** and

diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (HES-1 (hairy and enhancer of split 1); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (HNF-3/forkhead homolog-1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Heat-shock proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (HSP 27, 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Heat-shock proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 (HSP20; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (HSP70.2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (HSPB1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (I-FABP (intestinal fatty acid-binding protein); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Fibronectins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (I; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (IAP (integrin-assocd. protein); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and

irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ID1 (inhibitor of differentiation 1), helix-loop-helix protein (splice variation); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (IFI27; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Insulin-like growth factor-binding proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (IGFBP-2, gene IGFBP2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Insulin-like growth factor-binding proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (IGFBP-5; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (III, general; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Secretogranins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (III; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ILIR1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (IRF7; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ISGF-2 (interferon-stimulated gene factor 2); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Ifitm31; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Igfbp2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Itgbl1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (KLF (Kruppel-like factor), 9; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Kcnj8; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LDB1 (LIM domain-binding 1); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Lipoprotein receptors
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LDL; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LIM domain-contg., actinin .alpha.2-assocd. LIM protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LL5 protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(LOC286989; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LOC308709; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LOC78973; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Multidrug resistance proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LRP (lung resistance protein); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (LRP16; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Lgals1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Loc192245; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Enzymes, biological studies
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MAP4K3 (mitogen-activated protein kinase kinase kinase 3); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MAWD-binding protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT P-glycoproteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MDR1, 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based

on gene or protein expression profiles)

IT P-glycoproteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MDR1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Histocompatibility antigens
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MHC (major histocompatibility antigen complex), class Ib, Bm1k; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Histocompatibility antigens
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MHC (major histocompatibility complex), class I; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MRCL3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (MRLC2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Mvk; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Myh11; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Myxovirus (influenza) resistance protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (NOV; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT mRNA
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (NYGGF3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Ncor1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteinase-activated receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (PAR-2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (PEP-19; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (PKC-.delta.-binding protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (PMF32; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Parva; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Pcp4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Porf1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP

(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Ppargcl; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Ppp1r14a; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Ppp4r1; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Prkcdbp; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RGS-4 (regulator of G protein signaling 4); compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RGS-5 (regulator of G protein signaling 5); compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RIPK4; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Gene, animal
 Gene, animal
 Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RT1 class Ib; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Histocompatibility antigens
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RT1.C/E; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT mRNA
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(RT1.Ma; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Reelin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Rgc32; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT G proteins (guanine nucleotide-binding proteins)
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Rho family GTPase 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Calcium-binding proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (S100A4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (SAMD9; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (SLC28a2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (SNARE Vtila-beta protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Somatostatin receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (SSTR1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Somatostatin receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (SSTR2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (STAT1 (signal transducer and activator of transcription 1); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 (Scya4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Short stature homeobox2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Slc25a4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Stmn2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Sult-n; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (TAF9-like RNA polymerase II, TATA box-binding protein (TBP)-assocd. factor, 31 kD; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transcription factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (TFIIF (transcription factor IIF), polypeptide 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (TREK2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based

- on gene or protein expression profiles)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Tagln; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Tfrc; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Tpml; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Tspan-2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Tubb3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Annexins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (V; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Lipoprotein receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (VLDL; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Wfdcl; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Tenascins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (X; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP

(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (amiloride-binding protein I; compns. and methods for ***treating***
 and diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Cation channel
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (amiloride-sensitive, 1; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (amino acid transporter, SLC7A9; compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (angiopoietin-like 2; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (apolipoprotein B-editing protein; compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (apoptosis-assocd. speck-like protein; compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Arrestins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (arrestin E; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (axin 2; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (basic helix-loop-helix domain-contg. protein, class B2; compns. and
 methods for ***treating*** and diagnosing chronic visceral
 hypersensitivity and irritable bowel syndrome, based on gene or protein
 expression profiles)

IT Probes (nucleic acid)
 RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);
 USES (Uses)
 (binding to CVH-related polynucleotide; compns. and methods for

treating and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Biochemical compounds
 RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (binding to CVH-related polypeptides; compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (***brain*** -enriched membrane-assocd. protein tyrosine BEM-2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (***brain*** -specific angiogenesis inhibitor 1-assocd. protein 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cIAP-1 (cellular inhibitor of apoptosis protein 1); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Potassium channel
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (calcium-activated intermediate and small conductance; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Calponin
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (calponin 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (calsequestrin 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ceruloplasmin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(chemokine (C-X-C motif) ligand 10; compns. and methods for
 ****treating**** and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Chemokine receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (chemokine orphan receptor 1; compns. and methods for ****treating****
 and diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Intestine, disease
 (chronic visceral hypersensitivity; compns. and methods for
 ****treating**** and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cig5; compns. and methods for ****treating**** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Intestine
 (colon, gene expression profiles in; compns. and methods for
 ****treating**** and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Drugs
 Human
 Protein expression profiles, animal
 Rat endogenous retrovirus
 (compns. and methods for ****treating**** and diagnosing chronic
 visceral hypersensitivity and irritable bowel syndrome, based on gene
 or protein expression profiles)

IT Agrins
 Angiotensin receptors
 Biglycans
 Bone morphogenetic protein 3
 Bone morphogenetic protein 6
 CD36 (antigen)
 CD38 (antigen)
 Caveolins
 Desmins
 EST (expressed sequence tag)
 Fc.gamma.RIII receptors
 GAP-43 (protein)
 Macrophage inflammatory protein 1.beta.
 Synaptophysin
 Thrombomodulin
 Vasopressin receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (compns. and methods for ****treating**** and diagnosing chronic
 visceral hypersensitivity and irritable bowel syndrome, based on gene
 or protein expression profiles)

IT Complement receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (component 3a receptor 1; compns. and methods for ****treating****
 and diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Biochips
 (comprising CVH-related polynucleotide or polypeptide; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Growth factors, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (connective tissue; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (cysteine-rich protein 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (cysteine-rich, cysteine-rich protein 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (desmuslin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (developmentally regulated protein TP01; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Translation elongation factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (eEF-1.alpha.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (enigma (LIM domain protein); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Kinesins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (family member B; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteoglycans, biological studies
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (fibromodulin; compns. and methods for ***treating*** and

diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Test kits
(for diagnosing CVH; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (fracture callus protein MUSTANG; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Agglutinins and Lectins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (galactose-binding, sol. 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Agglutinins and Lectins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (galectin-5; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Agglutinins and Lectins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (galectin-9; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (gene lyn; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (glutaredoxins, 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (glycine-, glutamate-, thienylcyclohexylpiperidine-binding protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteoglycans, biological studies
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (glypican-1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP

(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(granulins; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(gremlin; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(guanine nucleotide-binding .alpha.-inhibiting 1; compns. and methods
for ***treating*** and diagnosing chronic visceral hypersensitivity
and irritable bowel syndrome, based on gene or protein expression
profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(guanylate cyclase activator 2A; compns. and methods for
treating and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(guanylate-binding protein 2, interferon-inducible; compns. and methods
for ***treating*** and diagnosing chronic visceral hypersensitivity
and irritable bowel syndrome, based on gene or protein expression
profiles)

IT Myosins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heavy chain 11; compns. and methods for ***treating*** and
diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT Myosins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heavy chain, unconventional myosin Myr2 I; compns. and methods for
treating and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(homeobox A5; compns. and methods for ***treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(homocysteine-respondent protein HCYP2; compns. and methods for
treating and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Pain
(hyperalgesia, visceral, produced in rat model of CVH; compns. and
methods for ***treating*** and diagnosing chronic visceral

hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Chemokines
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (interferon .gamma.-inducible protein-10; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 (interferon .gamma.-inducing factor-binding protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (interferon-inducible, variant 10; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT mRNA
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (intestinal epithelium proliferating cell-assocd.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Intestine, disease
 (irritable bowel syndrome; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (kinase D-interacting substance, 220 kDa; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (late gestation lung protein 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (latexin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (lipocalin 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene expression profiles, animal
(mRNA expression profiles; compns. and methods for ****treating***
and diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT Agglutinins and Lectins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(macrophage galactose N-acetylgalactosamine-specific; compns. and
methods for ****treating*** and diagnosing chronic visceral
hypersensitivity and irritable bowel syndrome, based on gene or protein
expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(macrophage-expressed gene 1; compns. and methods for ****treating***
and diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(matrix, Gla; compns. and methods for ****treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(membrane, lysosomal-assocd., 1; compns. and methods for
****treating*** and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(membrane, vesicle-assocd. 8 (endobrevin); compns. and methods for
****treating*** and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(milk fat globule-EGF factor 8 protein; compns. and methods for
****treating*** and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Diagnosis
(mol.; compns. and methods for ****treating*** and diagnosing
chronic visceral hypersensitivity and irritable bowel syndrome, based
on gene or protein expression profiles)

IT Transport proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monocarboxylate transporter; compns. and methods for ****treating***
and diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(myxovirus (influenza virus) resistance 2; compns. and methods for
****treating*** and diagnosing chronic visceral hypersensitivity and
irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (myxovirus resistance 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (neurofibromatosis 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (neurogranins; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (neuronatin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Glycoproteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (nmb (transmembrane); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Glycoproteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (nuclear pore membrane; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT DNA sequences
 (of CVH-related genes; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Protein sequences
 (of CVH-related proteins; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Molecular association
 (of binding agent to expressed polypeptide; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Disease models
 (of chronic visceral hypersensitivity in rats; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (oncogene, Fyn; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel

syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (oncogene, v-ets erythroblastosis virus E26, homolog 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Growth factor receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (opioid; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Antigens
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (p24; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Calcium-binding proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (parvalbumin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (parvin .alpha.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (peptide/histidine transporter 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (peptidylprolyl isomerase C-assocd.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (period homolog 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (phospholipid scramblase; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (phosphoprotein phosphatase-inhibiting, 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (plasmolipin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Collagens, biological studies
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (procollagens, type I, .alpha.2(I)-chain; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Collagens, biological studies
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (procollagens, type XII, .alpha.1(XII)-chain; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (progressive ankylosis protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (protein kinase C-binding protein Zeta1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (pseudogene, MHC class I RT1.O type 149 processed; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Surfactant proteins (pulmonary)
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (pulmonary-assocd. protein D; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (putative secretory pathway Ca-ATPase, SPCA2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

- (rabphilins, 3A; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT G protein-coupled receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (receptor 37 (endothelin receptor type B-like); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (reticulon 4 receptor; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (rexo70; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (rhoB; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (scgn10; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (schlafen 4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (schwannomin-interacting protein 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Glycoproteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (secretory (zymogen) granule membrane glycoprotein GP2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)
- IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (solute carrier family 15-(oligopeptide transporter), member 1; compns. and methods for ***treating*** and diagnosing chronic visceral

hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (solute carrier family 2, member 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (solute carrier family 2, member 4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (solute carrier family 21 (org. anion transporter), member 9; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (solute carrier family 25 (mitochondrial adenine nucleotide translocator), member 4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (solute carrier family 28, member 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (solute carrier family 39, iron-regulated; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Ganglion
 (spinal, S1, gene expression profiles; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (stathmin-like 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Nuclear receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (subfamily 1, group D, member 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Antigens

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (surface, thymus; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Antigens
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (surface; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (synaptogyrin 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (synaptotjanin 2-binding protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (syndecanyl 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (tapasin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (tensin; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (testis-specific; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Nucleic acid hybridization
 (to CVH-related polynucleotides; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Ligands
 SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 RL: ANT (Analyte)
 (to CVH-related polypeptide, small mol.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Antibodies and Immunoglobulins
 RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)
 (to CVH-related proteins; compns. and methods for ****treating***
 and diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Polynucleotides
 RL: ANT (Analyte); ANST (Analytical study)
 (transcribed, CVH-related; compns. and methods for ****treating***
 and diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (transducin-like enhancer of split 3; compns. and methods for
 ****treating*** and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (transgelin (smooth muscle 22 protein); compns. and methods for
 ****treating*** and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (transgelin; compns. and methods for ****treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (transient receptor potential-related protein, ChaK; compns. and
 methods for ****treating*** and diagnosing chronic visceral
 hypersensitivity and irritable bowel syndrome, based on gene or protein
 expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (transmembrane, interferon-induced, 3-like; compns. and methods for
 ****treating*** and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (tricarboxylate carrier-like protein; compns. and methods for
 ****treating*** and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Gene, animal
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (trkA, precursor; compns. and methods for ****treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (tumor stroma and activated macrophage protein DLM-1; compns. and

methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Fibroblast growth factor receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type 3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 5-HT receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type 5-HT2B; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Prostanoid receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type EP4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Prostanoid receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type FP; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Collagens, biological studies
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type I, .alpha.1(I)-chain; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Interleukin 1 receptors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type I; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Collagens, biological studies
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type III, .alpha.1(III)-chain; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Collagens, biological studies
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type V, .alpha.1(V)-chain; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (vacuolar membrane protein, 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Potassium channel
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (voltage-gated Kv2.1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Calcium channel
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (voltage-gated, .beta.3 subunit; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Calcium channel
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (voltage-gated, .gamma.-subunit-like protein; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (wap four-disulfide core domain 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (zinc finger-contg., 111; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (zinc finger-contg., RIN ZF; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Transport proteins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (zinc transporter, iron-regulated, member 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Hemoglobins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (.alpha. chain, 1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Actinins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (.alpha.-actinin 4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Interferons
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(.alpha.-inducible protein 27-like; compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT Actins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.alpha.-smooth muscle; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Hemoglobins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta. chain, complex; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT G proteins (guanine nucleotide-binding proteins)
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta. subunit, .beta.1; compns. and methods for ***treating***
 and diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT Tubulins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta.-; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Transforming growth factors
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta.2-; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Laminins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta.2; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Integrins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta.1; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Microglobulins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta.2-; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Tubulins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (.beta.3-; compns. and methods for ***treating*** and diagnosing
 chronic visceral hypersensitivity and irritable bowel syndrome, based
 on gene or protein expression profiles)

IT Actins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (.gamma.-, 2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT Actins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (.gamma.2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9014-01-1, Subtilisin
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (-like endoprotease; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9040-59-9, Cyclic nucleotide phosphodiesterase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (1, intestinal epithelium-proliferating cell-assocd.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9003-98-9, Deoxyribonuclease
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (1, sequence homolog, 3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9014-46-4, Transaldolase 9027-44-5, 3-Hydroxy-3-methylglutaryl-Coenzyme A synthase 142805-58-1
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (1; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9054-89-1, Superoxide dismutase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (2, 3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 69106-44-1, 2'5' Oligoadenylate synthetase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (2; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 182372-18-5, Serine/threonine kinase, 3
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (39; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9013-66-5, Glutathione peroxidase 9025-10-9, Adenosine monophosphate

deaminase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9001-03-0, Carbonic anhydrase 9032-67-1, Dipeptidyl peptidase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9001-77-8, Acid phosphatase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (5; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9038-14-6, Monooxygenase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (CYP2J3; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 60267-61-0, Ubiquitin
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (D; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9032-03-5, 5-Aminoimidazole-4-carboxamide ribonucleotide formyltransferase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (IMP; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 182081-06-7 188204-73-1 190396-88-4, Glutaminase (rat liver clone pGLN2.0) 190795-11-0 201169-71-3, Phospholipase D (rat ***brain***) 207754-59-4 212075-48-4 212778-59-1 214973-82-7, Transcription factor (rat gene BMAL1) 215171-93-0 241145-46-0 263743-88-0 279268-16-5 287217-08-7 311360-87-9 311360-88-0 328592-97-8 334864-78-7 343294-63-3 343313-83-7 389092-63-1 390432-93-6 393206-40-1 396239-19-3 431964-74-8 433981-54-5 441823-43-4 459502-12-6, GenBank AAB58272 459639-42-0 462366-10-5, KPL1 (Rattus norvegicus gene Kpl1) 483129-00-6 483183-30-8, Agrin (Rattus norvegicus gene agrin) 483183-33-1, Agrin (Rattus norvegicus gene agrin) 483184-49-2 483187-01-5 483187-16-2 483189-64-6 483192-69-4 483193-66-4 483197-63-3 483197-79-1 483197-81-5 483199-65-1 483200-15-3 483204-53-1 483207-88-1 483208-20-4 483255-20-5 483462-04-0 483470-29-7 483473-03-6 483494-86-6 483504-37-6 483525-36-6 483530-43-4 483546-18-5 483563-25-3 483563-50-4 483584-51-6 483588-57-4 483604-52-0 483612-61-9 483628-67-7 483629-17-0, Mama (Rattus norvegicus strain Fisher) 483630-65-5 483633-55-2 483645-04-1 483647-60-5 483651-82-7 484133-86-0 484141-62-0 487605-21-0, NPW16 (Rattus norvegicus strain SD) 487606-22-4 487606-59-7 487606-70-2, Legumain (Rattus norvegicus) 487697-52-9 487697-96-1 487699-69-4 487701-09-7 487708-94-1

487710-83-8 487713-97-3, Protein (Rattus norvegicus gene mtp1)
487745-25-5 487782-99-0 487783-31-3 487789-31-1 487789-35-5,
MAWDBP (Rattus norvegicus)

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)

(amino acid sequence; compns. and methods for ***treating*** and
diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on differential gene or protein expression)

IT 847720-55-2, Desmin (human) 847720-57-4, Protein (human gene PEP-19)
847720-59-6 847720-61-0, Protein (human gene ADAMTS1) 847720-63-2,
Protein (human gene ARGBP2) 847720-65-4, Stathmin-like 2 protein (human)
847720-67-6, Myxovirus resistance 2 protein (human) 847720-69-8, Protein
(human gene IRF7) 847720-71-2, Protein (human gene GBP2) 847720-73-4,
Protein (human gene SLC28a2) 847720-75-6, Protein (human gene BDNF)
847720-77-8 847720-79-0, Protein (human gene TREK2) 847720-81-4,
Protein (human gene trkA) 847720-83-6, Protein (human gene ILIR1)
847720-85-8, Protein (human gene EEF2k) 847720-87-0, Actin .gamma.-2
(human) 847720-89-2, Myosin (human heavy chain 11) 847720-91-6,
Protein (human gene MRCL3) 847720-93-8, Protein (human gene MRLC2)
847720-95-0 847720-97-2, Protein (human gene HSPB1) 847720-99-4,
Protein (human gene RIPK4) 847721-01-1 847721-03-3, Protein (human
gene transgelin) 847721-05-5, .beta.1-Integrin (human) 847721-07-7,
Protein (human gene Desmuslin) 847721-08-8 847721-11-3, Protein (human
gene FBXL22) 847721-13-5, .beta.-Tubulin (human) 847721-15-7, Protein
(human gene cig5) 847721-17-9, Protein (human gene SAMD9) 847721-19-1,
Protein (human gene IFI27)

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; compns. and methods for ***treating*** and
diagnosing chronic visceral hypersensitivity and irritable bowel
syndrome, based on gene or protein expression profiles)

IT 9001-15-4, Creatine kinase 9001-48-3, Glutathione reductase 9001-87-0,
Phospholipase D 9007-92-5, Glucagon, biological studies 9014-19-1,
Pyruvate carboxylase 9026-52-2, Mevalonate kinase 9026-93-1, Adenosine
deaminase 9030-27-7, Proteins, pre-B cell colony-enhancing factor
9031-37-2, Ceruloplasmin 9033-27-6, Isopentenyl diphosphate
.DELTA.-isomerase 9036-21-9, CAMP Phosphodiesterase 9054-84-6,
Xanthine dehydrogenase 9068-52-4, CGMP Phosphodiesterase 67338-98-1
80295-40-5, Complement C2 80295-41-6, Complement C3 80295-48-3,
Complement C4 80295-49-4, Complement C4a 82707-54-8, Membrane metallo
endopeptidase 89800-66-8, Heparanase 90597-47-0, Peptidylglycine
.alpha.-amidating monooxygenase 91608-96-7, Interferon-inducible
double-stranded RNA-dependent protein kinase 116283-83-1, Elongation
factor 2 kinase 122191-40-6, Caspase 1 124861-55-8 133876-97-8,
Cytosolic phospholipase A2 138757-15-0, .alpha.-2 Antiplasmin
139691-92-2, Serine protease inhibitor 140879-24-9, Proteasome
141436-78-4 143180-74-9, Granzyme B 145809-21-8, Tissue inhibitor of
metalloproteinase 3 149371-18-6, Legumain 172306-54-6, LIM
motif-containing protein kinase 2 179241-78-2, Caspase-8 192333-55-4,
Mitogen activated protein kinase, 13 194739-73-6, Mitogen-activated
protein kinase kinase, 6 219135-82-7, Rat mast cell protease-9
260256-85-7, Cathepsin Y 300857-36-7, RPTP-.delta. 358759-20-3,
Cytochrome P 450 4F5 455255-76-2, Cytochrome P 450 2D18 501036-70-0,
Cytochrome P 450 2J3

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. and methods for ***treating*** and diagnosing chronic

visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 64-19-7, Acetic acid, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (in CVH prodn. in rat model; compns. and methods for ****treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9001-47-2, Glutaminase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (liver mitochondrial; compns. and methods for ****treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 188364-82-1, Neuroserpin
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (member 1; compns. and methods for ****treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 301167-57-7, Protein tyrosine phosphatase, type IVA
 RL:
 ; DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (member 2; compns. and methods for ****treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 139822-50-7 139823-28-2, GenBank M10094 139823-31-7, GenBank M24026
 139823-62-4 139843-60-0 140044-99-1, GenBank M14400 140045-02-9
 140046-17-9, GenBank J02997 140048-59-5, GenBank M23764 140072-10-2
 140298-20-0, GenBank M14137 140299-49-6 140300-79-4, GenBank M24024
 140301-30-0, GenBank M25719 140302-17-6, GenBank M34097 140302-90-5
 140321-54-6 140535-36-0, GenBank M37568 140791-65-7, DNA (cDNA plus
 flanks) 142123-15-7 142884-17-1, DNA (Rattus norvegicus gene mtp1
 cDNA) 143321-26-0 148168-02-9 149215-12-3 149479-91-4
 151315-49-0 153770-54-8 168672-44-4 168720-03-4 169011-91-0
 172047-32-4 172200-84-9 173003-21-9 173108-30-0 173760-68-4
 179642-28-5 181545-22-2 184660-65-9 185925-72-8 187502-82-5
 188706-94-7 190551-57-6 193490-62-9 198917-93-0 200160-93-6
 200243-80-7 200836-25-5 203781-72-0 203813-01-8 203813-30-3
 203813-43-8 203817-40-7 203821-00-5 203821-22-1 203826-07-7
 203826-56-6 203826-69-1 203827-98-9 204280-73-9 204283-14-7
 204291-11-2 204291-28-1 204292-23-9 204298-89-5 204303-86-6
 205095-75-6 205099-32-7 205100-33-0 205141-71-5 205152-13-2
 205154-89-8 205332-25-8 205335-08-6 205555-88-0 205890-37-5
 205890-56-8 205891-79-8 205892-97-3 206294-91-9 206299-85-6
 206301-17-9 206305-73-9 206306-11-8 206308-98-7 206311-62-8
 206312-10-9 206313-04-4 206313-27-1 206313-45-3 206313-58-8
 206319-99-5 206320-44-7 206487-70-9 207038-67-3 207106-70-5
 207438-91-3 207440-97-9 207475-30-7 207475-34-1 207479-22-9
 207489-11-0 207491-62-1 207492-50-0 207492-91-9 207759-58-8
 207780-72-1 207783-87-7 207946-77-8 207947-31-7 207958-86-9
 207962-39-8 207964-63-4 208206-69-3 208229-09-8 208818-55-7
 208957-67-9 209140-46-5 209375-70-2 209382-17-2 209382-71-8
 209421-55-6 209426-19-7 209426-72-2 209430-02-4 209440-32-4
 209489-00-9 209835-98-3 210459-16-8 210463-06-2 210464-83-8
 210497-26-0 210504-68-0 210505-89-8 210506-45-9 211275-28-4

212242-42-7	215093-48-4	217143-05-0	217146-73-1	217155-97-0
217691-15-1	217691-70-8	217694-48-9	217702-11-9	217712-39-5
217716-46-6	217720-88-2	217721-08-9	217727-15-6	217733-27-2
217742-71-7	217743-72-1	217743-89-0	217745-01-2	217746-60-6
217746-63-9	217747-89-2	217748-17-9	217752-21-1	217754-58-0
217757-63-6	217759-45-0	217761-76-7	217783-77-2	217783-93-2
217786-58-8	217908-40-2	217910-96-8	217913-12-7	217913-16-1
217916-23-9	217917-70-9	217920-15-5	217928-96-6	217930-35-3
217936-51-1	217938-56-2	217978-92-2	217981-80-1	217982-11-1
217982-60-0	217985-12-1	219023-13-9	219024-42-7	219029-25-1
219029-46-6	219030-87-2	219032-87-8	219037-53-3	219038-85-4
219048-32-5	219052-90-1	219054-23-6	219056-42-5	219064-49-0
219064-64-9	219077-67-5	219078-56-5	219081-76-2	219089-29-9
219158-82-4	219165-58-9	219170-20-4	219170-39-5	222254-46-8
223166-86-7	223166-91-4	224359-65-3	225432-90-6	226203-90-3
226204-13-3	226265-95-8	226267-16-9	226270-20-8	226272-53-3
226272-75-9	226273-39-8	226273-87-6	226278-41-7	226279-42-1
226280-58-6	226280-61-1	226281-76-1	226286-62-0	226286-77-7
226288-20-6	226291-76-5	226298-56-2	226299-68-9	226300-61-4
226304-80-9	226313-03-7	226314-42-7	226315-96-4	226317-56-2
226318-31-6	226320-21-4			

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(nucleotide sequence; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on differential gene or protein expression)

IT	226321-52-4	226323-08-6	226323-09-7	227061-82-7	228167-02-0
	228167-85-9	228168-24-9	228185-56-6	228945-70-8	228947-37-3
	229212-18-4	229787-45-5	229809-66-9	229819-01-6	230170-53-3
	230176-57-5	230177-78-3	230178-62-8	230184-53-9	230185-92-9
	230186-91-1	230214-45-6	230277-98-2	230277-99-3	231238-08-7
	231238-60-1	231238-69-0	231240-53-2	231242-23-2	231242-38-9
	234158-85-1	234201-25-3	234514-28-4	234517-74-9	234518-18-4
	234518-73-1	234530-68-8	243876-63-3	248227-34-1	251485-85-5
	251497-74-2	251510-83-5	251512-49-9	252170-57-3	256167-87-0
	256172-60-8	256175-30-1	256178-22-0	256213-18-0	258544-14-8
	258557-54-9	258559-65-8	258570-14-8	258572-40-6	258579-22-5
	258579-50-9	258579-85-0	258580-50-6	258582-01-3	258595-84-5
	258598-16-2	258601-80-8	258620-80-3	258622-69-4	258627-72-4
	258632-47-2	258647-23-3	258647-29-9	258648-11-2	258648-60-1
	258652-41-4	258692-52-3	261326-86-7	265629-11-6	265629-89-8
	267392-02-9	268190-54-1,	DNA (Rattus norvegicus legumain cDNA)		
	268393-99-3	268396-32-3	268402-34-2	268411-15-0	268444-62-8
	268453-05-0	268458-84-0	268459-33-2	270549-18-3	272793-57-4
	272800-31-4	272813-61-3	272825-05-5	272825-31-7	272827-00-6
	272833-55-3	272836-37-0	272851-18-0	272861-29-7	272861-70-8
	272862-84-7	272872-20-5	272875-19-1	272878-33-8	272906-96-4
	272910-57-3	272910-73-3	272910-88-0	272920-97-5	272921-57-0
	272926-12-2	272928-16-2	272929-15-4	272933-29-6	272944-00-0
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	273047-40-8	273047-69-1	280426-58-6	280429-79-0	281041-69-8
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	304246-34-2	304246-76-2	304247-80-1	304248-43-9	304250-85-9
	304251-17-0	304251-78-3	304254-05-5	304254-20-4	304260-37-5
	304268-81-3	304284-06-8	304294-34-6	304306-22-7	304316-37-8
	304633-63-4	305680-54-0	305692-09-5	305692-24-4	305710-79-6

305714-18-5	305715-35-9	305718-03-0	305719-44-2	305744-38-1
305752-07-2	305756-11-0	305766-85-2	305775-16-0	305776-81-2
305780-74-9	305887-32-5	305892-54-0	305896-85-9	305905-90-2
305906-07-4	305906-73-4	305915-48-4	305922-42-3	305923-36-8
305933-86-2	305943-72-0	305950-39-4	305961-86-8	305984-70-7
306009-60-9	306012-55-5	306040-91-5	306057-49-8	306058-45-7
306069-19-2	306071-72-7	306076-71-1	306088-36-8	306089-53-2
306090-42-6	306091-98-5	306093-84-5	306096-58-2	306105-24-8
306105-76-0	308575-43-1	308938-00-3	308946-64-7	308953-00-6
308983-76-8	308992-40-7	309000-37-1	309020-44-8	309037-95-4
309086-53-1	317800-37-6	326974-86-1	326975-22-8	326985-68-6
326986-18-9	326988-41-4	327393-58-8	327394-30-9	327396-74-7
327404-09-1	327404-49-9	327404-56-8	327408-92-4	327420-24-6
327420-45-1	327422-59-3	327431-83-4	327433-89-6	327438-09-5
327444-97-3	327453-66-7	327453-70-3	327454-69-3	327454-98-8
327458-14-0	327458-19-5	327458-20-8	327461-29-0	327463-39-8
327464-97-1	332315-66-9, DNA (Rattus norvegicus gene trp6C)			
333716-32-8	335495-84-6	335499-37-1		

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(nucleotide sequence; compns. and methods for ****treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on differential gene or protein expression)

IT	335506-35-9	335704-73-9	335706-83-7	335720-13-3	335724-92-0
	335726-42-6	335760-79-7	335784-40-2	335786-63-5	335788-01-7
	337884-55-6	343216-21-7	347790-67-4	347791-40-6	347791-46-2
	347792-95-4	347793-23-1	347794-12-1	348411-52-9	348412-19-1
	348413-57-0	348413-93-4	348414-64-2	348415-39-4	348415-46-3
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	348473-11-0	348475-63-8	348479-14-1	348482-52-0	348482-98-4
	348483-00-1	348483-93-2	348484-97-9	348485-09-6	348485-99-4
	348486-32-8	348498-05-5	348499-42-3	348504-13-2	348507-91-5
	348508-13-4	348508-14-5	348508-60-1	348509-05-7	348509-12-6
	348509-41-1	348509-50-2	348510-30-5	348510-56-5	348510-74-7
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	348550-52-7	348550-79-8	348554-39-2	348554-90-5	348559-88-6
	348562-52-7	348562-58-3	348566-55-2	348567-08-8	348681-98-1
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	393769-23-8	393770-24-6	393775-08-1	393776-34-6	393776-96-0

393908-00-4 393910-43-5 393912-22-6 393914-50-6 393919-67-0
 393920-04-2 414402-28-1 415189-36-5 415528-96-0 415529-20-3, DNA
 (Rattus norvegicus MAWDBP cDNA) 417999-47-4 847860-69-9, GenBank
 AO010267
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)
 (nucleotide sequence; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on differential gene or protein expression)

IT 847720-54-1, DNA (human desmin gene) 847720-56-3, DNA (human gene
 PEP-19) 847720-58-5, DNA (human gene IGFBP2) 847720-60-9, DNA (human
 gene ADAMTS1) 847720-62-1, DNA (human gene ARGBP2) 847720-64-3, DNA
 (human stathmin-like 2 protein gene) 847720-66-5, DNA (human myxovirus
 resistance 2 gene) 847720-68-7, DNA (human gene IRF7) 847720-70-1, DNA
 (human gene GBP2) 847720-72-3, DNA (human gene SLC28a2) 847720-74-5,
 DNA (human gene BDNF) 847720-76-7 847720-78-9, DNA (human gene TREK2)
 847720-80-3, DNA (human gene trkA) 847720-82-5, DNA (human gene ILIR1)
 847720-84-7, DNA (human gene EEF2k) 847720-86-9, DNA (human actin
 .gamma.-2 gene) 847720-88-1, DNA (human myosin heavy chain 11 gene)
 847720-90-5, DNA (human gene MRCL3) 847720-92-7, DNA (human gene MRCL2)
 847720-94-9, DNA (human Rho family GTPase 1 gene) 847720-96-1, DNA
 (human gene HSPB1) 847720-98-3, DNA (human gene RIPK4) 847721-00-0
 847721-02-2, DNA (human gene transgelin) 847721-04-4, DNA (human
 .beta.1-Integrin gene) 847721-06-6, DNA (human gene Desmuslin)
 847721-09-9 847721-10-2, DNA (human gene FBXL22) 847721-12-4, DNA
 (human .beta.-tubulin) 847721-14-6, DNA (human gene cig5) 847721-16-8,
 DNA (human gene SAMD9) 847721-18-0, DNA (human gene IFI27)
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (nucleotide sequence; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT 9015-81-0, 17 .beta. Hydroxysteroid dehydrogenase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (oxidative type 6; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT 330207-52-8, Cytochrome P450 4B
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (polypeptide 1; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT 59298-90-7, UDP-galactose:glucosylceramide .beta.1,4-galactosyltransferase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (polypeptide 6; compns. and methods for ***treating*** and
 diagnosing chronic visceral hypersensitivity and irritable bowel
 syndrome, based on gene or protein expression profiles)

IT 362479-32-1, Protein phosphatase 1
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
 (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (regulatory (inhibitor) subunits 1B, 14a; compns. and methods for
 treating and diagnosing chronic visceral hypersensitivity and
 irritable bowel syndrome, based on gene or protein expression profiles)

IT 80295-32-5, Complement C1

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (s subcomponent; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 9033-53-8, Retinol dehydrogenase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (sequence homolog; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 79-17-4, Hydrazinecarboximidamide 164301-51-3, CNI1493
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (therapeutic compn. comprising; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 75536-80-0, Peptidylarginine deiminase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type 4; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 246518-54-7, Nudix hydrolase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type II diphosphoinositol polyphosphate phosphohydrolase; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 135371-29-8, Protein geranylgeranyltransferase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (type-I (GGTase-I); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 847725-17-1 847725-18-2 847725-19-3 847725-20-6 847725-21-7
 847725-22-8 847725-23-9 847725-24-0 847725-25-1 847725-26-2
 847725-27-3 847725-28-4 847725-29-5 847725-30-8 847725-31-9
 847725-32-0 847725-33-1 847725-34-2 847725-35-3 847725-36-4
 847725-37-5
 RL: PRP (Properties) (unclaimed sequence; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on differential gene or protein expression)

IT 50812-37-8, Glutathione S-transferase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (.alpha. 1, mu type 3-(Yb3); compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

IT 60382-71-0, Diacylglycerol kinase
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (.beta.; compns. and methods for ***treating*** and diagnosing chronic visceral hypersensitivity and irritable bowel syndrome, based on gene or protein expression profiles)

L28 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2004:1127487 CAPLUS <<LOGINID::20090423>>
 DN 142:72870
 TI Gene expression profiles in airway epithelium and their use as signatures
 for diagnosing disorders of the lung
 IN Brody, Jerome S.; Spira, Avrum; Shah, Nila; Palma, John F.
 PA Trustees of Boston University, USA; Affymetrix, Inc.
 SO PCT Int. Appl., 105 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004111197	A2	20041223	WO 2004-US18492	20040610
	WO 2004111197	A3	20060720		
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,				
	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,				
	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,				
	TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,				
	AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,				
	EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,				
	SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,				
	SN, TD, TG				

PRAI US 2003-477218P P 20030610
 US 2003-483387P P 20030627
 US 2003-497599P P 20030825

AB A minimally invasive sample procurement method for obtaining airway
 epithelial cell RNA that can be analyzed by expression profiling, e.g., by
 array-based gene expression profiling, is disclosed. These methods can be
 used to identify patterns of gene expression that are diagnostic of lung
 disorders, e.g., cancer, to identify subjects at risk for developing lung
 disorders and to custom design an array, e.g., a microarray, for the
 diagnosis or prediction of lung disorders or ***susceptibility*** to
 lung disorders. Arrays and informative genes are also disclosed for this
 purpose.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB . . . lung disorders and to custom design an array, e.g., a microarray,
 for the diagnosis or prediction of lung disorders or
 susceptibility to lung disorders. Arrays and informative genes
 are also disclosed for this purpose.

IT Gene, animal
 RL: DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); USES
 (Uses)
 (***DMBT1*** ; gene expression profiles in airway epithelium and
 their use as signatures for diagnosing disorders of lung)

IT 9012-42-4, Adenylate cyclase
 RL: DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); USES
 (Uses)
 (***brain*** isoenzyme, gene for; gene expression profiles in
 airway epithelium and their use as signatures for diagnosing disorders
 of lung)

L28 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2004:371153 CAPLUS <<LOGINID::20090423>>

DN 140:371494

TI Binary prediction tree modeling with many predictors and its uses in clinical and genomic applications

IN Nevins, Joseph R.; West, Mike; Huang, Andrew T.

PA Duke University, USA

SO PCT Int. Appl., 886 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2004038376	A2	20040506	WO 2003-US33946	20031024
	WO 2004038376	A3	20040826		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2003290537	A1	20040513	AU 2003-290537	20031024
	US 20050170528	A1	20050804	US 2003-692002	20031024
	EP 1579383	A2	20050928	EP 2003-783074	20031024
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
PRAI	US 2002-420729P	P	20021024		
	US 2002-421062P	P	20021025		
	US 2002-421102P	P	20021025		
	US 2002-424701P	P	20021108		
	US 2002-424715P	P	20021108		
	US 2002-424718P	P	20021108		
	US 2002-425256P	P	20021112		
	US 2003-448461P	P	20030221		
	US 2003-448462P	P	20030221		
	US 2003-457877P	P	20030327		
	US 2003-458373P	P	20030331		
	WO 2003-US33946	W	20031024		

AB The statistical anal. described and claimed is a predictive statistical tree model that overcomes several problems obsd. in prior statistical models and regression analyses, while ensuring greater accuracy and predictive capabilities. Although the claimed use of the predictive statistical tree model described herein is directed to the prediction of a disease in individuals, the claimed model can be used for a variety of applications including the prediction of disease states,

susceptibility of disease states or any other biol. state of interest, as well as other applicable non-biol. states of interest. This model first screens genes to reduce noise, applies kmeans correlation-based clustering targeting a large no. of clusters, and then uses singular value decompns. (SVD) to ext. the single dominant factor (principal component) from each cluster. This generates a statistically significant no. of cluster-derived singular factors, that are referred to

as metagenes, that characterize multiple patterns of expression of the genes across samples. The strategy aims to ext. multiple such patterns while reducing dimension and smoothing out gene-specific noise through the aggregation within clusters. Formal predictive anal. then uses these metagenes in a Bayesian classification tree anal. This generates multiple recursive partitions of the sample into subgroups (the 'leaves' of the classification tree), and assocs. Bayesian predictive probabilities of outcomes with each subgroup. Overall predictions for an individual sample are then generated by averaging predictions, with appropriate wts., across many such tree models. The model includes the use of iterative out-of-sample, cross-validation predictions leaving each sample out of the data set one at a time, refitting the model from the remaining samples and using it to predict the hold-out case. This rigorously tests the predictive value of a model and mirrors the real-world prognostic context where prediction of new cases as they arise is the major goal.

AB . . . disease in individuals, the claimed model can be used for a variety of applications including the prediction of disease states, ***susceptibility*** of disease states or any other biol. state of interest, as well as other applicable non-biol. states of interest. This.

IT 213260-57-2 213325-40-7 213539-29-8 213539-33-4 213761-98-9,
Protein (human gene SOLH) 214145-60-5 214282-68-5 214550-32-0,
Ksp-cadherin (human gene CDH16) 214550-97-7 214609-83-3 214688-59-2
214909-74-7 215380-38-4 216017-43-5 216148-42-4 216148-46-8,
KIAA0714 protein (human gene KIAA0714) 216148-50-4, KIAA0715 protein
(human gene KIAA0715) 216148-53-7, KIAA0716 protein (human gene
KIAA0716) 216148-97-9, KIAA0721 protein (human gene KIAA0721)
216149-41-6, KIAA0723 protein (human gene KIAA0723) 216149-50-7,
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(human gene KIAA0725) 216149-93-8, KIAA0726 protein (human gene
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216150-78-6, KIAA0737 protein (human gene KIAA0737) 216151-04-1,
KIAA0739 protein (human gene KIAA0739) 216151-15-4, KIAA0740 protein
(human gene KIAA0740) 216151-19-8, KIAA0741 protein (human gene
KIAA0741) 216151-23-4, KIAA0742 protein (human gene KIAA0742)
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(human gene KIAA0747) 216151-79-0, KIAA0750 protein (human gene
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216153-28-5, Protein KIAA0776 (human gene KIAA0776) 216153-45-6,
KIAA0779 protein (human gene KIAA0779) 216153-65-0, KIAA0782 protein
(human gene KIAA0782) 216153-75-2, KIAA0784 protein (human gene
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216154-23-3, KIAA0791 protein (human gene KIAA0791) 216154-29-9,
KIAA0792 protein (human gene KIAA0792) 216154-43-7, KIAA0795 protein
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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(amino acid sequence; binary prediction tree modeling with many
 predictors and its uses in clin. and genomic applications)

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 (human gene GPR39 cDNA)
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)
 (nucleotide sequence; binary prediction tree modeling with many
 predictors and its uses in clin. and genomic applications)

L28 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2004:39697 CAPLUS <<LOGINID::20090423>>

DN 140:123703

TI Human prostate cancer marker genes associated with various metastatic
 stages identified by gene profiling, and related compositions, kits, and
 methods for diagnosis, prognosis and therapy

IN Schlegel, Robert; Endege, Wilson O.

PA Millennium Pharmaceuticals, Inc., USA

SO U.S. Pat. Appl. Publ., 131 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 20040009481	A1	20040115	US 2002-166883	20020611
	US 20040009481	A1	20040115	US 2002-166883	20020611
	US 20040009481	A1	20040115	US 2002-166883	20020611
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	US 20040009481	A1	20040115	US 2002-166883	20020611
PRAI	US 2001-297285P	P	20010611		
	US 2002-166883	A	20020611		

AB The invention relates to compns., kits, and methods for diagnosing,
 staging, prognosing, monitoring and ***treating*** human prostate
 cancers. A variety of marker genes are provided, wherein changes in the
 levels of expression of one or more of the marker genes is correlated with
 the presence of prostate cancer. In particular, three sets of the marker
 genes set, corresponding to 11617 GenBank Accession Nos. (only 2168 new
 submissions) and 15 SEQ IDs, are identified by transcription profiling
 using RNA derived from clin. samples, that were expressed at least 2-fold
 or greater than the normal controls. Using TNM staging approach, these

markers are divided to three groups, ones can be used to det. whether prostate cancer has metastasized, or is likely to metastasize, to the liver (M stage); ones can be used to det. whether prostate cancer has metastasized, or is likely to metastasize, to the bone (M stage); and ones can be used to det. whether prostate cancer has metastasized, or is likely to metastasize, to the lymph nodes (N stage and/or M stage). The invention also relates to a kit for assessing the specific type of metastatic prostate cancer, e.g., cancer that has metastasized to the liver, bone or lymph nodes. [This abstr. record is one of three records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.].

- AB The invention relates to compns., kits, and methods for diagnosing, staging, prognosing, monitoring and ***treating*** human prostate cancers. A variety of marker genes are provided, wherein changes in the levels of expression of one or . . .
- IT 97003-30-0, Protein S 11 (rat ribosome reduced) 151595-82-3, Protein (human DEAD box reduced) 154767-47-2, Protein (human gene RSU1) 157298-17-4 161736-39-6, Ferritin (human L-chain) 161736-56-7, Protein (human 123-amino acid) 162063-82-3 164639-53-6, Protein (human KG-1 cell 631-amino acid) 167362-03-0, Protein S 10 (human ribosome) 176634-85-8, Protein (human gene FRG1) 178360-63-9 181055-30-1 183078-23-1 188204-60-6 188702-93-4, Protein (human gene CRM1 reduced) 191878-86-1 191879-09-1 191879-29-5 191879-31-9 191879-44-4 191879-45-5, Protein p120 (human clone HH0733) 191879-49-9 191879-50-2, Myosin VI (human clone HJ0061) 192080-64-1 192949-81-8, Protein (human gene ATM) 194880-79-0 195009-88-2 198582-99-9, Repressor (human gene CHD1) 198583-00-5, Repressor (human gene CHD2) 200662-22-2, Protein (human gene BICD1) 203674-18-4 203745-59-9 204998-59-4, Kexin (human heart reduced) 205070-70-8 207021-90-7 208670-26-2 208670-32-0 209338-43-2, Protein GCP3 (human clone hGCP3) 209543-85-1, Protein HSP90 (human gene Hsp89.alpha..DELTA.N) 209967-84-0 210044-71-6 211509-24-9, Protein (human clone KIAA0619 reduced) 211750-45-7 212005-01-1 212844-46-7 213614-39-2 214550-97-7 216149-41-6, KIAA0723 protein (human gene KIAA0723) 216150-49-1, KIAA0729 protein (human gene KIAA0729) 216150-64-0, KIAA0733 protein (human gene KIAA0733) 216150-85-5, KIAA0738 protein (human gene KIAA0738) 216151-04-1, KIAA0739 protein (human gene KIAA0739) 216152-28-2, KIAA0759 protein (human gene KIAA0759) 216152-73-7, KIAA0767 protein (human gene KIAA0767) 216153-95-6, Protein KIAA0787 (human gene KIAA0787) 216154-51-7, KIAA0799 protein (human gene KIAA0799) 218136-85-7 219636-04-1 220278-26-2 221895-85-8 222963-15-7 222963-26-0, Protein (human ***brain*** gene KIAA0831) 222963-50-0 222963-51-1 222963-57-7, Protein (human ***brain*** gene KIAA0862) 222963-64-6 222964-12-7, Protein (human ***brain*** gene KIAA0901) 222964-15-0 222964-28-5 223418-29-9 226888-46-6 226888-75-1, KIAA0940 protein (human clone hh04894) 226894-14-0 234088-78-9 234088-79-0 234088-80-3 234088-82-5 234088-83-6 234088-84-7 234088-85-8 234088-86-9 234088-87-0 234088-88-1 234088-89-2 234088-93-8 234088-94-9 234088-95-0 234088-96-1 234088-97-2 234088-98-3 234088-99-4 234089-00-0 234089-06-6 234089-07-7 234089-08-8 234089-09-9 234089-10-2 234089-11-3 234089-13-5 234089-14-6 234089-15-7 234089-16-8 234089-17-9 234089-18-0 234089-19-1 234089-20-4 234765-15-2 235432-07-2 235768-54-4, HMGBCG protein (human gene HMGBCG) 244204-30-6 244204-34-0 244204-63-5 244204-67-9 244204-83-9 248909-95-7 248909-97-9 250600-51-2 252028-82-3 252200-64-9 252903-35-8 252903-36-9 252903-37-0 252903-47-2 252903-57-4 252903-62-1

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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(amino acid sequence; human prostate cancer marker genes assocd. with
 metastatic stages identified by gene profiling, and related compns.,
 kits, and methods for diagnosis, prognosis and therapy)

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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(nucleotide sequence; human prostate cancer marker genes assocd. with
metastatic stages identified by gene profiling, and related compns.,
kits, and methods for diagnosis, prognosis and therapy)

L28 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2003:942764 CAPLUS <<LOGINID::20090423>>

DN 140:3792

TI Genes expressed in atherosclerotic tissue and their use in diagnosis and
pharmacogenetics

IN Nevins, Joseph; West, Mike; Goldschmidt, Pascal

PA Duke University, USA

SO PCT Int. Appl., 408 pp.

CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003091391	A2	20031106	WO 2002-XA38221	20021112
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PRAI	US 2002-374547P	P	20020423		
	US 2002-420784P	P	20021024		
	US 2002-421043P	P	20021025		
	US 2002-424680P	P	20021108		
	WO 2002-US38221	A	20021112		
AB	Genes whose expression is correlated with an determinant of an atherosclerotic phenotype are provided. Also provided are methods of using the subject atherosclerotic determinant genes in diagnosis and ***treatment*** methods, as well as drug screening methods. In addn., reagents and kits thereof that find use in practicing the subject methods are provided. Also provided are methods of detg. whether a gene is correlated with a disease phenotype, where correlation is detd. using a Bayesian anal.				
AB	. . . of an atherosclerotic phenotype are provided. Also provided are methods of using the subject atherosclerotic determinant genes in diagnosis and ***treatment*** methods, as well as drug screening methods. In addn., reagents and kits thereof that find use in practicing the subject. . .				
IT	Angioplasty Surgery (in ***treatment*** of atherosclerosis, genotyping in selection of; genes expressed in atherosclerotic tissue and their use in diagnosis and pharmacogenetics)				
IT	***Susceptibility*** (genetic) (to atherosclerosis; genes expressed in atherosclerotic tissue and their use in diagnosis and pharmacogenetics)				
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 253147-48-7 253147-49-8 253147-50-1 253147-51-2 253147-52-3
 253188-74-8 253278-21-6 253755-61-2 253834-33-2 258852-90-3

263327-50-0 268535-60-0 280586-88-1, Phosphoprotein Lnk (human Jurkat cell) 282122-55-8, Phosphoprotein (human gene vav) 288411-74-5
 302501-19-5 304026-69-5 304031-72-9 306331-56-6, Protein (human A2058 melanoma gene MTA1) 308386-55-2, Protein (human gene pax9)
 321573-88-0 329385-88-8 329386-76-7 329386-77-8 329386-81-4
 329386-91-6 329386-92-7 329386-94-9 329386-96-1 329386-97-2
 340323-28-6, GTP-binding protein (human CD34+ cell) 340323-29-7
 346467-77-4 352239-31-7 353581-47-2 353581-49-4 380411-57-4
 380411-58-5 380411-59-6 385848-97-5 385849-05-8 385849-11-6
 385849-22-9, Protein (human KG-1 cell gene KIAA0062) 385849-24-1,
 Inhibitor of apoptosis protein 1 (human) 385849-30-9 385849-31-0,
 RNA-unwinding enzyme II (human) 385849-36-5 385849-45-6 385849-47-8,
 Cyclin D3 (human gene CCND3) 385849-52-5 385849-57-0, Protein (human cell KG-1 gene KIAA0089) 385849-58-1, CD59 antigen (human) 385849-60-5
 385849-61-6 385849-62-7, Interleukin 1 receptor (human) 385849-64-9
 385849-68-3 385849-75-2, Protein (human gene IEX-1) 385849-77-4
 385849-78-5 385849-88-7, Cyclophilin (human gene CyP3 isoform 3)
 385849-92-3, RNA formation factor NF-IL6.beta. (human) 385856-71-3
 385856-73-5, O-linked GlcNAc transferase (human) 386301-41-3
 390052-94-5 391757-64-5

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(amino acid sequence; genes expressed in atherosclerotic tissue and their use in diagnosis and pharmacogenetics)

IT 384426-68-0 384426-73-7 384427-20-7 384427-24-1 384431-25-8, DNA (human gene BCL2 cDNA) 384431-51-0, DNA (human gene HBNF-1 cDNA)
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 384513-93-3 384515-78-0 384515-94-0, DNA (human gene pilot cDNA)

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 126 cDNA) 384649-18-7, DNA (human gene hPMSR2) 384649-28-9
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 cDNA) 384675-36-9 384675-48-3 384676-63-5 384681-77-0
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 line KG-1 cDNA) 384696-04-2 384696-90-6, DNA (human FAN protein cDNA)
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 384730-99-8, DNA (human gene UBE2G cDNA) 384746-08-1 384747-56-2
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 384765-59-7, DNA (human gene SCL cDNA) 384765-62-2, DNA (human clone
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 384770-21-2, DNA (human angiopoietin-2 cDNA) 384780-40-9, DNA (human
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 (human clone ZNF139, pHZ-37 cDNA) 385074-83-9, DNA (human gene DTK cDNA)
 385081-26-5, DNA (human gene PCOLCE cDNA) 385083-57-8 385084-86-6, DNA
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 385195-14-2, DNA (human gene SSX4 cDNA) 385205-83-4, DNA (human gene
 TACI cDNA) 385207-38-5 385217-52-7, DNA (human gene LIR-3 cDNA)
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 HH1739 cDNA)

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; genes expressed in atherosclerotic tissue and their use in diagnosis and pharmacogenetics)

L28 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2001:828415 CAPLUS <<LOGINID::20090423>>
 DN 137:89412
 TI Detection of variations in the DNA methylation profile of genes in the determining the risk of disease
 IN Berlin, Kurt; Piepenbrock, Christian; Olek, Alexander
 PA Epigenomics A.-G., Germany
 SO PCT Int. Appl., 636 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 69

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001077373	A2	20011018	WO 2001-XA1486	20010406
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, CF, CG, CI, CM, GA, GW, ML, MR, NE, SN, TD, TG				
DE	10019058	A1	20011220	DE 2000-10019058	20000406
WO	2001077373	A2	20011018	WO 2001-DE1486	20010406
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AU	2001077487	A	20011023	AU 2001-77487	20010406
EP	1360319	A2	20031112	EP 2001-955278	20010406
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
EP	2014776	A2	20090114	EP 2008-12765	20010406
	R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR				
AT	339520	T	20061015	AT 2002-90203	20020605
ES	2272636	T3	20070501	ES 2002-90203	20020605
US	20040067491	A1	20040408	US 2003-240454	20030311
AU	2003204553	A1	20040108	AU 2003-204553	20030605
AU	2003204553	B2	20071129		
JP	2004008217	A	20040115	JP 2003-160375	20030605
US	20040023279	A1	20040205	US 2003-455212	20030605
AU	2006203475	A1	20060831	AU 2006-203475	20060811
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AU	2006225250	A1	20061026	AU 2006-225250	20061005
PRAI	DE 2000-10019058	A	20000406		
	WO 2001-DE1486	W	20010406		
	DE 2000-10019173	A	20000407		

	DE 2000-10032529	A	20000630
	DE 2000-10043826	A	20000901
	AU 2001-275663	A	20010406
	AU 2001-276331	A3	20010406
	AU 2001-75663	A	20010406
	EP 2001-969303	A3	20010406
	WO 2001-EP4016	W	20010406
	EP 2002-90203	A	20020605
	AU 2006-230475	A	20060811

AB The invention relates to an oligonucleotide kit as probe for the detection of relevant variations in the DNA methylation of a target group of genes. The invention further relates to the use of the same for detg. the gene variant with regard to DNA methylation, a medical device, using an oligonucleotide kit, a method for detg. the methylation state of an individual and a method for the establishment of a model for establishing the probability of onset of a disease state in an individual. Such diseases may be: undesired pharmaceutical side-effects; cancerous diseases; CNS dysfunctions, injuries or diseases; aggressive symptoms or relational disturbances; clin., psychol. and social consequences of ***brain*** injury; psychotic disorders and personality disorders; dementia and/or assocd. syndromes; cardiovascular disease, dysfunction and damage; dysfunction, damage or disease of the gastrointestinal tract; dysfunction, damage or disease of the respiratory system; injury, inflammation, infection, immunity and/or anastasis; dysfunction, damage or disease of the body as an abnormal development process; dysfunction, damage or disease of the skin, muscle, connective tissue or bones; endocrine and metabolic dysfunction, damage or disease; headaches or sexual dysfunction. This abstr. record is one of several records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.

AB . . . pharmaceutical side-effects; cancerous diseases; CNS dysfunctions, injuries or diseases; aggressive symptoms or relational disturbances; clin., psychol. and social consequences of ***brain*** injury; psychotic disorders and personality disorders; dementia and/or assocd. syndromes; cardiovascular disease, dysfunction and damage; dysfunction, damage or disease of. . .

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH

ST DNA methylation assay disease ***susceptibility*** detn

IT Cadherins
 Synaptobrevins
 Syndecans
 Syntaxins
 Uncoupling protein

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (1, DNA methylation profiles in gene ***for*** ***and*** disease ***susceptibility*** ; detection of variations in DNA ***methylation*** profile of genes in detg. risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (1PC, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Cadherins
 Nexins
 Presenilins

Synaptobrevins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (2, DNA methylation profiles in gene for ***and*** disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Cadherins
 Cyclin dependent kinase inhibitors
 P-glycoproteins
 Tropomyosins
 Uncoupling protein
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (3, DNA methylation profiles ***in*** gene ***for*** ***and*** disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Laminins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (5, DNA methylation profiles in gene for ***and*** disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (95 kDa, postsynaptic d., DNA methylation profiles ***in*** gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Chromogranins
 Cyclins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (A, DNA methylation profiles in gene for ***and*** disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Apolipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (A-I, DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Apolipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (A-II, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (A2M, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (AAEMX1, DNA methylation profiles in gene ***for*** and disease

susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ABC (ATP-binding cassette) transporters, ABCC7, DNA methylation profiles ***in*** gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ABC7, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ABCR, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ABO, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACAA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACADL, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACADM, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACADS, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACAT2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACE, DNA methylation profiles in and ***disease***
 susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACTN3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACVR2B, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ACVRL1, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ADCX, DNA methylation profiles in gene ***for*** and disease
 susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ADD1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ADD2 DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ADH1C, DNA methylation profiles in and ***disease***
 susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ADHR, DNA methylation profiles in and ***disease***
 susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ADTB3A, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (AGA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (AGL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (AGT, DNA methylation profiles in and disease ***susceptibility*** ;
 detection of variations in DNA ***methylation*** profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (AIF, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (AIM1, DNA methylation profiles in and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (AIRE, DNA methylation profiles and disease susceptibility; detection
 of variations in ***DNA*** methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ALAD, DNA methylation profiles and disease susceptibility; detection
 of variations in ***DNA*** methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ALDH1, DNA methylation profiles in and disease susceptibility;
 detection of variations ***in*** DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ALDH10, DNA methylation profiles in and ***disease***
 susceptibility; detection of variations in DNA methylation profile of

genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ALDH2, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ALDOA, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ALDOB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ALDOC, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile ***of*** genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ANGPT1, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ANGPT2, DNA methylation profiles in and ***disease***
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ANX1, DNA methylation profiles in and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ANX4, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (AP-2 (activator protein 2), DNA ***methylation*** profiles in gene
 for and disease ***susceptibility*** ; detection of variations in
 DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APBB1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APC, DNA methylation profiles in and ***disease*** susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APLP, DNA methylation profiles in and ***disease***
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APOA2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APOAI, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APOB, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APOC1, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APOC2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APOC3, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (APOD, DNA methylation profiles and disease ***susceptibility*** ;

detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(APOE, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(APOH, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(APP, DNA methylation profiles in and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(APT1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(APT1LG1, DNA methylation profiles and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(AR, DNA methylation profiles in and disease susceptibility; detection
of variations ***in*** DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(AREG, DNA methylation profiles in and disease susceptibility;
detection of variations ***in*** DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ARG1, DNA methylation profiles and disease susceptibility; detection
of variations in ***DNA*** methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ARNT, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ARSA, DNA methylation profiles and disease susceptibility; detection of variations in ***DNA*** methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ARSB, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ARSD, DNA methylation profiles and disease susceptibility; detection of variations in ***DNA*** methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ARSE, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ARSF, DNA methylation profiles and disease susceptibility; detection of variations in ***DNA*** methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (AS, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ASH2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ASL, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ASPA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ASS, DNA methylation profiles and disease ***susceptibility*** ;

detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
(ASTN, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(AT3, DNA methylation profiles in and ***disease***
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ATDC, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ATM, DNA methylation profiles and disease susceptibility; detection of
variations in DNA methylation profile of genes in detg. risk
of
disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ATOH1, DNA methylation profiles and disease susceptibility; detection
of variations in ***DNA*** methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ATP7B, DNA methylation profiles and disease susceptibility; detection
of variations in DNA ***methylation*** profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ATRX, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(AVP, DNA methylation profiles and ***disease*** susceptibility;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(AZF1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.

risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Apaf-1 (apoptotic protease activating factor-1), ***DNA***
 methylation profiles in gene for and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Apolipoproteins
 Cyclins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (B, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations ***in*** DNA
 methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (B-lym, DNA methylation profiles and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (B-raf, DNA methylation profiles and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (B2M, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (B3GALT, DNA methylation profiles and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BAPX1, DNA methylation profiles and ***disease*** susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BARD1, DNA methylation profiles and ***disease*** susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BAX, DNA methylation profiles and ***disease*** susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCAT1, DNA methylation profiles and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCAT2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCL-10, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCL-4, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCL-5, DNA methylation profiles and ***disease*** ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCL-6, DNA methylation profiles and ***disease*** ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCL-7, DNA methylation profiles and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCL-8, DNA methylation profiles and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCL-9, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(BCL2A1, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Chimeric gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BCR-ABL, DNA methylation profiles and ***disease***
 susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BDNF, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BDNFR, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BLM, DNA methylation profiles and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BMP1, DNA methylation profiles and disease susceptibility; detection of variations in DNA methylation profile ***of*** genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BMP2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BMP3, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BMP4, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BMP5, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BMP7, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BMP8, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Bone morphogenetic proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (BMP8, DNA methylation profiles in gene ***for*** and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BPGM, DNA methylation profiles and ***disease*** susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BRCA1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BRCA2, DNA methylation profiles and ***disease*** susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BRCD1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BRCD2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BTK, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (BWR1A, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (BZLF1, DNA methylation profiles in gene ***for*** and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (Bax, DNA methylation profiles in gene for ***and*** disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Bcl-2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of ***genes***
 in detg. risk of disease)

IT Bradykinin receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (B1, DNA methylation profiles in gene ***for*** and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Bradykinin receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (B2, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Cyclins
 High-mobility group proteins
 Troponins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (C, DNA methylation profiles in gene for ***and*** disease
 susceptibility ; detection of variations in ***DNA***
 methylation profile of genes in detg. risk of disease)

IT Apolipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (C-I, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Apolipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (C-II, DNA methylation profiles in gene ***for*** and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Apolipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)

(C-III, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C1R, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C1S, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C4A, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C4B, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C5, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C6, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)
- IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C7, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (C8B, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (C9, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CALB2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CALB3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CALBI, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CALM1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CANX, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CASP1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CASP2, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CASP3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CASP4, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile ***of*** genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CASP5, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CASP7, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CASP8, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study)
 (CASP9, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CAT, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CAV3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (CBF (core-binding factor), DNA methylation profiles ***in*** gene
 for and disease ***susceptibility*** ; detection of variations in
 DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CBFA1, DNA methylation profiles and disease susceptibility;

detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CBFA2, DNA methylation profiles and disease susceptibility; detection of variations in DNA methylation profile of ***genes*** in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CBFB, DNA methylation profiles and disease susceptibility; detection of variations in DNA methylation profile of ***genes*** in detg. risk of disease)

IT Transcription factors
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(CBP (CREB-binding protein), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CBS, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CCNA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CCNB, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CCNC, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CCNE, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CCR2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Chemokine receptors

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CCR2, DNA methylation profiles in gene ***for*** and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CCR3, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Chemokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CCR3, DNA methylation profiles in gene for ***and*** disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CCR5, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Chemokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CCR5, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT CD antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CD 56, DNA methylation profiles in ***gene*** for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CD1, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CD10, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT CD antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CD146, DNA methylation profiles in gene ***for*** and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT CD antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(CD149, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT CD antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (CD18, DNA methylation profiles in gene ***for*** and disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT CD antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (CD31, DNA methylation profiles in gene ***for*** and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CD4, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT CD antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (CD42a, DNA methylation profiles in gene ***for*** and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDH1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDH2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDH3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK10, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK3, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK4, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK5, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK6, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CDK7, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK8, DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDK9, DNA methylation profiles in gene ***for*** and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDKN1A, DNA methylation profiles in and ***disease*** ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CDKN1B, DNA methylation profiles in and ***disease*** ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(CDKN1C, DNA methylation profiles in and disease ***susceptibility***
; detection ***of*** variations in DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CDKN23, DNA methylation profiles in and disease ***susceptibility***
; detection of ***variations*** in DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CDKN2A, DNA methylation profiles in and ***disease***
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CHAT, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CHGA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CHH, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CHM, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CHRH1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CHRNA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CHYI, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CIQA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLCN1, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLN2, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLN3, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLN4, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLN6, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLQB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLQG, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CLU, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(CNGA3, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CNGAL, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CNR1, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CNTF, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CNTFR, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CNTN1, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COCH, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL10A1, DNA methylation profiles and disease susceptibility;
 detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL11A1, DNA methylation profiles and disease susceptibility;
 detection of ***variations*** in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL11A2, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL14A1, DNA methylation profiles and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL17A1, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL1A2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL2A1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL3A1, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL4A1, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL4A3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL4A4, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 RL: ANT (Analyte); BSU (Biological study, unclassified)
 ; ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL4A5, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal

Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL4A6, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL5A1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL5A2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL6A2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL6A3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL7A1, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL9A2, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COL9A3, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (COLQ, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(COLR, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CP, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CRAT, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CRH, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CRX, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CRY2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CSBP1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CSBP1, DNA methylation profiles in gene for and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CSBP2, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (CSE, DNA methylation profiles in gene for and ***disease*** ***susceptibility*** ; detection of variations in DNA methylation

profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CSH1, DNA methylation ***profiles*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CST3, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CSTB, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CSX, DNA methylation profiles and disease ***susceptibility*** ; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CTH, DNA methylation profiles and disease ***susceptibility*** ; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CTNNB1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA ***methylation*** profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CTNS, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CTSG, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CTSK, DNA methylation profiles and disease susceptibility; detection of variations in ***DNA*** methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CUBN, DNA methylation profiles and disease ***susceptibility*** ;
 detection of ***variations*** in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CXCR1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Chemokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (CXCR1, DNA methylation profiles in gene for and disease
 susceptibility ; ***detection*** of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CXCR2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations ***in*** DNA methylation profile of genes
 in detg. risk of disease)

IT Chemokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (CXCR2, DNA methylation profiles in gene for and disease
 susceptibility ; ***detection*** of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CXCR4, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Chemokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (CXCR4, DNA methylation profiles in gene for ***and*** disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP11A1, ***DNA*** methylation profiles and disease
 susceptibility ; detection of variations in ***DNA***
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***CYP11B1*** , DNA methylation profiles and disease
 susceptibility ; detection of variations ***in*** DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(CYP11B2, DNA methylation profiles and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP17, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP19, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP1A1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP1A2, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP1B1, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP21, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP24, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP27, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2A1, DNA methylation profiles and disease susceptibility;

detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2A13, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2A3, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2A6V2, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2A7, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2B6, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2C18, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2C19, DNA methylation profiles and disease susceptibility;
detection of variations ***in*** DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2C8, DNA methylation profiles and disease susceptibility; detection
of variations in ***DNA*** methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(CYP2C9, DNA methylation profiles and disease susceptibility; detection
of variations ***in*** DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP2D6, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP2E1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP2F1, DNA methylation ***profiles*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP2J2, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP3A3, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP3A4, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP3A5, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP3A7, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP4A11, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP4B1, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP4F3, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP51, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP5A1, DNA methylation profiles and disease susceptibility; detection of variations in ***DNA*** methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP7A, DNA methylation profiles and disease ***susceptibility*** ; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (CYP8, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Apolipoproteins
 Cyclins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (D, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DAD1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Steroid receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DAX-1, DNA ***methylation*** profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(DAX1, DNA methylation profiles ***and*** disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DBH, DNA methylation profiles ***and*** disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (DBH, DNA methylation ***profiles*** in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 (DBT, DNA methylation profiles ***and*** disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DCC, DNA ***methylation*** profiles and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DDHI, DNA ***methylation*** profiles and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DECR, DNA ***methylation*** profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DES, DNA methylation profiles and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DHAPAT, DNA methylation ***profiles*** and disease susceptibility;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DHCR7, DNA methylation ***profiles*** and disease susceptibility;

detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DIA1, DNA ***methylation*** profiles and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DIAPH1, DNA methylation profiles ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DIAPH2, DNA methylation ***profiles*** and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DKC1, DNA methylation ***profiles*** in and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT ***Gene*** , animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DM, DNA methylation profiles in gene for and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DM2, DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (***DMBT1*** , DNA methylation profiles and disease ***susceptibility*** ; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DMD, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DMPK, DNA methylation profiles and ***disease*** ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Enzymes, biological studies

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DNA helicase, DNA methylation profiles in gene ***for*** and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Myelin basic protein
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DNA methylation profiles in gene for and ***disease*** ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT ACTH receptors
 Activin receptors
 Amyloid precursor proteins
 Androgen receptors
 Bone morphogenetic protein 1
 Bone morphogenetic protein 2
 Bone morphogenetic protein 3
 Bone morphogenetic protein 4
 Bone morphogenetic protein 5
 Bone morphogenetic protein 6
 Bone morphogenetic protein 7
 CD1 (antigen)
 CD4 (antigen)
 Calcitonin gene-related peptide receptors
 Calcitonin receptors
 Calmodulins
 Calnexin
 Calretinin
 Cannabinoid receptors
 Carcinoembryonic antigen
 Chloride channel
 Ciliary neurotrophic factor
 Clathrin
 Clusterin
 Corticotropin releasing factor receptors
 Desmins
 Dynamin
 Dystrophin
 Elastins
 Endoglins
 Endothelin ETA receptors
 Endothelin ETB receptors
 Epidermal growth factor receptors
 Fas antigen
 Fas ligand
 Fc.gamma.RI receptors
 Fc.gamma.RII receptors
 Fc.gamma.RIII receptors
 Fibrillins
 Fibrinogens
 Fibronectins
 Galanin receptors
 Glycine receptors
 Gonadotropin-releasing hormone receptor
 Haptoglobin
 Hemoglobins

High-density lipoproteins
Inositol 1,4,5-trisphosphate receptors
Intermediate-density lipoproteins
Iron-sulfur proteins
Laminin receptors
Leptin receptors
Leukemia inhibitory factor
Leukemia inhibitory factor receptors
Lymphotoxin
Macrophage inflammatory protein 2
Melatonin receptors
Mineralocorticoid receptors
Monocyte chemoattractant protein-1
Myelin P0 protein
Myoglobins
Myosins
Nebulin (protein)
Nerve growth factor receptors
Neuregulin 1
Neurofibromin
Neurokinins
Neurotensin receptors
Nicotinic receptors
Osteonectin
Osteopontin
Parathyroid hormone receptors
Parvalbumins
Platelet-activating factor receptors
Platelet-derived growth factor receptors
Platelet-derived growth factors
Potassium channel
Presenilins
Prion proteins
Proliferating cell nuclear antigen
Radixin
Ras proteins
Ryanodine receptors
Selectins
Stem cell factor
Synaptophysin
TCR .alpha..beta. (receptor)
Talin
Tau factor
Tenascins
Thrombin receptors
Thrombomodulin
Thrombospondins
Thyrotropin-releasing hormone receptors
Tumor necrosis factor receptors
Tumor necrosis factors
Urokinase-type plasminogen activator receptors
VIP receptors
Vasopressin receptors
Very-low-density lipoproteins
Vimentins
Vinculin
Vitamin D receptors

c-Kit (protein)
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DNA methylation profiles in ***gene*** ***for*** ***and***
 disease ***susceptibility*** ; ***detection***
 of ***variations*** ***in*** ***DNA***
 methylation ***profile*** of genes in detg. risk of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DNM1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DNM1, DNA methylation profiles in gene for and disease
 susceptibility ; detection ***of*** variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Cytokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DR4 (death receptor 4), DNA methylation ***profiles*** in gene for
 and disease ***susceptibility*** ; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Cytokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DR5 (death receptor 5), DNA methylation profiles ***in*** gene for
 and disease ***susceptibility*** ; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DRPLA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA ***methylation*** profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DYSF, DNA methylation profiles in and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DYT1, DNA methylation profiles in gene for and disease
 susceptibility ; detection of ***variations*** in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DYT3, DNA methylation profiles in gene for and disease
 susceptibility ; detection of ***variations*** in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DYT6, DNA methylation profiles in gene for and disease
 susceptibility ; detection of ***variations*** in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DYT7, DNA methylation profiles in gene for and disease
 susceptibility ; ***detection*** of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); ANST (Analytical study); USES (Uses)
 (Ddc, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations ***in*** DNA methylation profile of genes
 in detg. risk of disease)

IT Blood-group substances
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Duffy, DNA methylation profiles in gene for and disease
 susceptibility ; ***detection*** of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Calbindins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (D28k, DNA methylation profiles in gene for and disease
 susceptibility ; detection of ***variations*** in DNA
 methylation profile of genes in detg. risk of disease)

IT Calbindins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (D9k, DNA methylation profiles in gene for and disease
 susceptibility ; detection of ***variations*** in DNA
 methylation profile of genes in detg. risk of disease)

IT Apolipoproteins
 Cyclins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (E, DNA methylation profiles in gene for and disease
 susceptibility ; detection of ***variations*** in DNA
 methylation profile of genes in detg. risk of disease)

IT Selectins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (E-, DNA methylation profiles in gene for and disease
 susceptibility ; detection of ***variations*** in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EBAF, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in ***DNA*** methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(ECE, DNA methylation profiles in and disease ***susceptibility*** ;
detection of variations ***in*** DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(ED1, DNA methylation profiles in gene for and disease
susceptibility ; detection of ***variations*** in DNA
methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EDN1, DNA methylation profiles in and disease ***susceptibility***
; ***detection*** of variations in DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EDN2, DNA methylation profiles in and disease ***susceptibility***
; ***detection*** of variations in DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EDN3, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EDNRA, DNA methylation profiles in and disease ***susceptibility***
; detection of ***variations*** in DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EDNRB, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EFMR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in ***DNA*** methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EGF, DNA methylation profiles in and disease ***susceptibility*** ;
detection of variations ***in*** DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(EIF4E, DNA methylation profiles in and disease ***susceptibility***
; detection of variations ***in*** DNA methylation profile of genes
in detg. risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (EKLF (erythroid Kruppel-like factor), DNA methylation profiles in gene ***for*** and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EKLF, DNA methylation profiles and disease ***susceptibility*** ; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ELK1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ELK2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ELN, DNA methylation profiles and disease ***susceptibility*** ; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (EMD, DNA methylation profiles in gene for and disease ***susceptibility*** ; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (EMX2, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ENG, DNA methylation profiles in and disease ***susceptibility*** ; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EPB41, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in ***DNA*** methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EPB42, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EPB72, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EPHA, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EPHB, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (EPM2A, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ERB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ERBAL2, methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ERBB2, DNA methylation profiles and disease ***susceptibility*** ;
 detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ERCC5, DNA methylation profiles in and disease ***susceptibility***
 ; detection of ***variations*** in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ERG, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations ***in*** DNA methylation profile of genes

in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ETFA, DNA methylation profiles in gene for and ***disease***
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ETFB, DNA methylation profiles in gene for and disease
 susceptibility ; ***detection*** of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ETFDH, DNA methylation profiles in gene for and disease
 susceptibility ; detection ***of*** variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ETM1, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations ***in*** DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ETM2, DNA methylation profiles in gene for and disease
 susceptibility ; detection ***of*** variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ETS1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of ***variations*** in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH

(ETS2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of ***variations*** in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EWSR1, DNA methylation profiles in and disease ***susceptibility***
 ; detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EXT1, DNA methylation profiles in and disease ***susceptibility***
 ; detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (EXT2, DNA methylation profiles in and disease ***susceptibility***
 ; detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (En-1, DNA methylation profiles in and disease ***susceptibility***
 ; ***detection*** of variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Evi-1, DNA methylation profiles and disease ***susceptibility*** ;
 detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (F1, DNA methylation profiles and disease ***susceptibility*** ;
 detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (F11, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations ***in*** DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (F12, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in
 detg . risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (F13, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (F2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (F2R, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (F3, DNA methylation profiles and disease ***susceptibility*** ;

detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(F5, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Proteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(FABP (fatty acid-binding protein), DNA methylation profiles in gene
for and disease ***susceptibility*** ; detection of variations in
DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FABP2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FANCA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FANCC, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FANCD, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FBN1, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FBN2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FCGR2A, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FCGR3A, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FCGR3A, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FCMD, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FECH, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FGA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FGB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FGD1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FGF1, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FGF3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (FGFR1, DNA methylation profiles in and disease ***susceptibility***

; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FGFR2, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FGFR3, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FGG, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FGR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FKHR, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FLII, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FN1, DNA methylation profiles in and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FRAXA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FRAXE, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FRAXF, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FUCAL, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FUT2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FUT22, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FVT1, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(FY, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Proteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(G/T mismatch binding, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GAA, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GAD1, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GAL, DNA methylation profiles disease ***susceptibility*** ;

detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GALC, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GALE, DNA methylation profiles in and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GALNRL, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GALNS, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GAS, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Transcription factors
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GATA-1, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GAX, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GBEI, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GBX2, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GCDH, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GDCA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GDF5, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GDI (GDP disocn. inhibitor), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GDNF, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Neurotrophic factor receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GDNF, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GFBI, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GGTA1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GIF, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GJB2, DNA methylation profiles disease ***susceptibility*** ;

detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GJB3, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GK, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GK, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GLA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GLCLC, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(GLDC, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GLI1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GLI2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GLI3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GLRA2, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GLS, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 (GLUD1, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GLYS1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GLYS2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GLYT, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Glycoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GM2 ganglioside activator protein GM2A, DNA methylation profiles in
 gene for and disease ***susceptibility*** ; detection of variations
 in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GM2A, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GNPTA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(GNRHR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GNS, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Glycoproteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GP IX, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GP1BB, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GP1BG, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GP5, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GP9, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GPC3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(GPI, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(GPIBA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GPIBB, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Glycoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GPIb, platelet, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GPLBG, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GRB2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GRP, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GSC, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GSH, DNA methylation profiles disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (GSM1, DNA methylation profiles disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GT1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (GUCA1A, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT G proteins (guanine nucleotide-binding proteins)
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (Gq, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Apolipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (H, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HADHA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HADHB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HAGH, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (HBA1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (HBB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (HBD, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use)

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HBG1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HBG2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HBGG, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HCF2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HCNP, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HD, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HDLDT1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HEXA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HEXB, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HFE, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.

risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HFI, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HGD, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HGL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (HIF-1 (hypoxia-inducible factor 1), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (HIF-2 (hypoxia-inducible factor 2), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HLADPBL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HLCS, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HLXB9, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT High-mobility group proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (HMG-I(Y), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HMGIC, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HMGIIY, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HOX11, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HOXA13, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPA2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPAI, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPD, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPE1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPE2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.

risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPE3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPE4, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HPS, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HR, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Glycoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (HRG (histidine-rich glycoprotein), DNA methylation profiles in gene
 for and disease ***susceptibility*** ; detection of variations in
 DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HRG, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HSD11B2, DNA methylation profiles and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HSD17B1, DNA methylation profiles and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (HSD17B3, DNA methylation profiles and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HSD17B4, DNA methylation profiles and disease ***susceptibility***
; detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HSD3B2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Heat-shock proteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(HSPA2, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Heat-shock proteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(HSPAL, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HSTF1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HTN3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HTS1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study)
(HVBS1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HVBS6, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Proteins
Receptors
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
 (Hel-N1, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Annexins
 Synaptotagmin
 Troponins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (I, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IC7A, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IC7B, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Cell adhesion molecules
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (ICAM (intercellular adhesion mol.), DNA methylation profiles in gene
 for and disease ***susceptibility*** ; detection of variations in
 DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ICAM1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ICCA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IDS, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IDUA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(IF, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IFNA1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IFNB1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IFNG, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IFNGR1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IFNGR2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IGER, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IGES, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IGF1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IGF2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IGHG2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IGHM, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IGJ, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IGKC, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IGKV, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IHH, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Synaptotagmin
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (II, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IKBL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ILP1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(INHA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (INHBA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (INHBB, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (INHBC, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IRF-1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IRF4, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (IRS-1 (insulin receptor substrate 1), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IRS1, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ISGF-2 (interferon-stimulated gene factor 2), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGA1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

risk of disease)
 IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGA2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGA5, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGA6, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGA6, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGB1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGB2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGB3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGB4, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGB5, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGB6, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITGB7, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITPR1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ITPR3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (IVD, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Antibodies and Immunoglobulins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (IgG2, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (JAK1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (JAK2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (JAK3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Jagged 1, DNA methylation profiles in gene for and disease

susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Blood-group substances
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (K (Kell), DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (KAI 1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (KAL1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (KEL, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (KHK, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Selectins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (L-, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Ribosomal proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (L17, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (L1CAM, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LAMA3, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LAMB3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LAMC2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LAMB3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LAMP, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LAMR1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LCAM, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LCAT, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LCO, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Low-density lipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (LDL 1, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Low-density lipoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

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        (LDL 2, DNA methylation profiles in gene for and disease
          ***susceptibility*** ; detection of variations in DNA methylation
          profile of genes in detg. risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (LECAM1, DNA methylation profiles and disease ***susceptibility*** ;
        detection of variations in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use)
; BIOL (Biological study); USES (Uses)
    (LEF1, DNA methylation profiles and disease ***susceptibility*** ;
    detection of variations in DNA methylation profile of genes in detg.
    risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (LEP, DNA methylation profiles and disease ***susceptibility*** ;
        detection of variations in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (LEPR, DNA methylation profiles and disease ***susceptibility*** ;
        detection of variations in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (LHX1, DNA methylation profiles and disease ***susceptibility*** ;
        detection of variations in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (LHX2, DNA methylation profiles and disease ***susceptibility*** ;
        detection of variations in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (LHX3, DNA methylation profiles and disease ***susceptibility*** ;
        detection of variations in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (LHX4, DNA methylation profiles and disease ***susceptibility*** ;
        detection of variations in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
        use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

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(LIF, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LIFR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LMANI, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LMNA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LMO1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LMO2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LMO3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LMO4, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(LPL, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LPP, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LQT2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LRP, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LST-1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LTA4S, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LTB4S, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LTBP2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LTC4S, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (LYL1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Cell adhesion molecules
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Leu-CAM (leukocytic cell adhesion mol.), DNA methylation profiles in
 gene for and disease ***susceptibility*** ; detection of variations
 in DNA methylation profile of genes in detg. risk of disease)

IT Laminins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(M, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MADH3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MADH4, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (MADS box enhancer factor 2, DNA methylation profiles in gene for and
 disease ***susceptibility*** ; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (MADS box, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MAF, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MANA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MANB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (MAP (microtubule-assocd. protein), DNA methylation profiles in gene
 for and disease ***susceptibility*** ; detection of variations in
 DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MAPK, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MAPT, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (MAX protein interacting, DNA methylation profiles in gene for and
 disease ***susceptibility*** ; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MBL2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MC2R, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MC4R, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Cell adhesion molecules
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (MCAM (melanoma cell adhesion mol.), DNA methylation profiles in gene
 for and disease ***susceptibility*** ; detection of variations in
 DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MCC, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MCIR, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MDK, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(MDS1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MEF2A, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MEF2A, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MEF2B, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MEF2B, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MEF2C, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MEF2D, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MEFV, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MEN1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MET, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (MGP (matrix .gamma.-carboxyglutamic acid-contg. protein), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MGP, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Histocompatibility antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (MHC (major histocompatibility complex), class I, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Histocompatibility antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (MHC (major histocompatibility complex), class II, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MHC2TA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MIDI, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MIP2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MLF1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MLHI, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MLL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MLN, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MMP10, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MMP11, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MMP12, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MMP13, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MMP14, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MMP15, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MMP16, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(MMP17, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP18, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP19, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP4, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
RL: ANT (Analyte)
; THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES
(Uses)
(MMP5, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP6, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP7, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP8, DNA methylation profiles and disease ***susceptibility*** ;

detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP9, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MMP1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MPE, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MPZ, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MSH2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MSH3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MSH6, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MSX1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MSX2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MTHFR, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MTMI, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MTNRLA, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MTNRLB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (MTP (microsomal triglyceride-exchanging protein), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MTP, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MTR, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MUC18, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (MUL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(MUM1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MUT, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MXI1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MYO6, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MYO7A, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MYCL1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MYCN, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MYF3, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MYF4, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(Mdm2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Myf-5 (myogenic factor 5), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Myf-5, DNA methylation profiles disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (N, snRNP, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (N-ras, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NAGLU, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NAIP, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (NAIP, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NAT1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NAT2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(NB6, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Cell adhesion molecules
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (NCAM (neural cell adhesion mol.), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Cell adhesion molecules
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (NCAM-L1 (neural cell adhesion mol. L1), DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NCAM1, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NCAM120, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NCAM2, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Cell adhesion molecules
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (NCAM2, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NDN, DNA methylation profiles disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NDP, ethylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NDPKA, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NDUFS1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NDUFS4, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NDUFV1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NEB, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NEC1, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Neurofilament proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (NF-H, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Neurofilament proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (NF-L, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NF1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NF2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(NF68, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NFH, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NGF, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NGFR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NKNA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NKNB, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NODAL, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NOS1, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NOS2, DNA methylation profiles disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NOS3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NOTCH1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NOTCH2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NP, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NPHP1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NPHP2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NRL, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NSK2, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NTRK1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NTS, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 RL: ANT (Analyte)

; THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (NTSR1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Notch 3DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (OAL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (OCRL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ON, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (OPG, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (OPN, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (OTX1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (OTX2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(OX, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(OX1R, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(OX2R, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(OXCT, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Proteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(Oligophrenin 1, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Selectins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(P-, DNA methylation profiles in gene for and disease
susceptibility ; detection of variations in DNA methylation
profile of genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PAFAH1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PAFAH2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(PAFR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PAH, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PAI1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PAI2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PAM, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PARS, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PAX3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PAX6, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PAX7, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PCI, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PCK1, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(PDDR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PDGF, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PDGFB, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PDGFR, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PDHA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Cell adhesion molecules
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(PECAM-1 (platelet-endothelial cell adhesion mol. 1), DNA methylation
profiles in gene for and disease ***susceptibility*** ; detection of
variations in DNA methylation profile of genes in detg. risk of
disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PECAM1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(PENK, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PEPD, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PFKFB1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.

risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PFKL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PFKM, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PGDS, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PGKI, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PGKL, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PGY3, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PHB, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PHEX, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PHKA2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PHYH, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PIGA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PIM1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PITPN, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PITX2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PITX3, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PKA, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PKD2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PKDL, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(PKHDL, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(PKP1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PLF, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PLG, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PLRP2, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(PMCH, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PML, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PMM2, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Proteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(PMP-22 (peripheral myelin protein, 22 kDa), DNA ***methylation***
profiles in gene for and disease susceptibility; detection of
variations in DNA methylation profile of genes in detg. risk of
disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PMS1, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in

detg. risk of disease)

IT Gene, animal
Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PMS2, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PN2, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POMC, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PPGB, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PPOX, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PPP1R3, DNA methylation profiles and disease susceptibility; detection
of ***variations*** in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PPP2R1B, DNA methylation profiles and disease susceptibility;
detection of ***variations*** in DNA methylation profile of genes
in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PPT, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PRH, DNA methylation profiles and disease susceptibility; detection of

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        variations    ***in***    DNA methylation profile of genes in detg. risk
        of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (PRKB, DNA methylation profiles and disease susceptibility; detection
        ***of***    variations in DNA methylation profile of genes in detg.
risk
    of disease)
IT  Gene, animal
    Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (PRKCA, DNA methylation profiles and disease susceptibility; detection
        ***of***    variations in DNA methylation profile of genes in detg.
risk
    of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (PRKCG, DNA methylation profiles and disease susceptibility;
        ***detection***    of variations in DNA methylation profile of genes in
        detg. risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (PROC, DNA methylation profiles and disease susceptibility; detection
        of variations    ***in***    DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
    (Biological study); USES (Uses)
SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
    (PRODH, DNA methylation profiles and disease susceptibility;
    ***detection***    of variations in DNA methylation profile of genes in
    detg. risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (PROP1, DNA methylation profiles and disease susceptibility;
        ***detection***    of variations in DNA methylation profile of genes in
        detg. risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (PRPH, DNA methylation profiles and disease susceptibility; detection
        ***of***    variations in DNA methylation profile of genes in detg.
risk
    of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
        (PRPS1, DNA methylation profiles and disease susceptibility;
        ***detection***    of variations in DNA methylation profile of genes in
        detg. risk of disease)
IT  Gene, animal
    RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL

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(Biological study); USES (Uses)
 (PRSS7, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PSAP, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (PSD95, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (PSEN1, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (PSEN2, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTCH, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTEN, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (PTEN, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTGS2, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTH, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTHLH, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTHR1, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTHRP, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTPN12, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PTS, DNA methylation profiles and disease susceptibility; detection of
 variations ***in*** DNA methylation profile of genes in detg. risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PVALB, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PXMP3, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PXR1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (PYCS, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (PYGL, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Prnp, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (R-ras, DNA methylation profiles and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT G proteins (guanine nucleotide-binding proteins)
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RAB3A, DNA methylation ***profiles*** in gene for and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RAB3a, DNA methylation profiles in and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RAG, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Retinoic acid receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RAR-.alpha., DNA methylation profiles in ***gene*** for and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Retinoic acid receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RAR-.beta., DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Retinoic acid receptors

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RAR-.gamma., DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RARA, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RARB, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RB1, DNA methylation profiles in and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RDX, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT DNA formation factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RF-C (replication factor C), DNA methylation profiles ***in*** gene for and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RFC2, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RFX5, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RFXAP, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RHAG, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RHCE, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RHD, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RHOK, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RIGUI, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RLBP1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RLN1, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RLN2, DNA methylation profiles in and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RPL17, DNA methylation profiles in and ***disease***
 susceptibility; detection of variations in DNA methylation profile of

genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RPP65, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RPP65, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RPS19, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RPX, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RS, DNA methylation profiles in and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RXRA, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RXRB, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RXRG, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Retinoid X receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RXR.alpha., DNA methylation profiles ***in*** gene for and disease

susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Retinoid X receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RXR.beta., DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Retinoid X receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (RXR.gamma., DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (RYR1, DNA methylation profiles in and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Blood-group substances
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Rh(D), DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Blood-group substances
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Rh, DNA methylation profiles in gene for and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Glycoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Rhesus blood group-assocd., DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Rim, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Calcium-binding proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (S-100, DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (S100A3, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (S100A4, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Calcium-binding proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (S100A4, DNA methylation profiles in gene for ***and*** disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (S100A5, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (S100A7, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (S100A8, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (S100A9, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (S100P, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Ribosomal proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (S19, DNA methylation profiles in gene ***for*** and disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (SAA (serum amyloid A), DNA methylation profiles in gene ***for***
 and disease susceptibility; detection of variations in DNA methylation

profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (SAA, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (SAP (serum amyloid P component), DNA methylation profiles in ***gene*** for and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SAP, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SCA8, DNA methylation profiles disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 (SCF, DNA methylation profiles and disease susceptibility; ***detection*** ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SCP2, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (SCP2 (sterol carrier protein 2), DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SDHL, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic

use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SELE, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SELL, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SELP, DNA methylation profiles disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SEMA3, DNA methylation profiles disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SEMA5, DNA methylation profiles disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SEMAE, DNA methylation profiles disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SEMAW, DNA methylation profiles disease susceptibility; detection of
 variations in ***DNA*** methylation profile of genes in detg. risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SGSH, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SH2D1A, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SHH, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SIX1, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SIX2, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SIX5, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SLAM, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Lymphokines
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (SLAM, DNA methylation profiles in gene for and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (SLAM-assocd., DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SMARCSI, DNA methylation profiles in and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SMNI, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SMOH, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SMPD1, DNA methylation profiles disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (SNAP-25 (synaptosome-assocd. protein, 25 kDa), DNA methylation
 profiles in gene for and disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SNAP25, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SNCA, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SNCA, DNA methylation profiles in and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SNCB, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SNRPN, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SOD1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SOD3, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SOX 11, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SOX11, DNA methylation profiles disease susceptibility; detection of
 variations in ***DNA*** methylation profile of genes in detg. risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SPG7, DNA methylation profiles disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SPTAI, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SPTB, DNA methylation profiles disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SSAI, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SSX1, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SSX2, DNA methylation profiles and disease susceptibility; detection
 of variations in ***DNA*** methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ST3, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ST8, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (STAR, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (STAT1 (signal transducer and activator of transcription 1),
 DNA methylation profiles in gene for and disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (STAT1, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (STAT2 (signal transducer and activator of transcription 2),
 DNA methylation profiles in gene for and disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (STAT2, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (STAT3 (signal transducer and activator of transcription 3),
 DNA methylation profiles in gene for and disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (STAT3, DNA methylation profiles and disease ***susceptibility*** ;

detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Transcription factors
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(STAT4 (signal transducer and activator of transcription ***4***),
DNA methylation profiles in gene for and disease susceptibility;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(STAT4, DNA methylation profiles and disease susceptibility; detection
of ***variations*** in DNA methylation profile of genes in detg.
risk of disease)

IT Transcription factors
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(STAT5 (signal transducer and activator of transcription 5),
DNA methylation profiles in gene for and disease
susceptibility; detection of variations in DNA methylation profile of
genes in detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(STAT5, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(STK11, DNA methylation profiles and disease susceptibility; detection
of ***variations*** in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(STK2, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(STS, DNA methylation profiles and disease susceptibility; detection
of variations in DNA methylation profile of genes in detg.
risk
of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(SUOX, DNA methylation profiles and disease susceptibility; detection
of variations ***in*** DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic

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    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SV2, DNA methylation profiles and disease susceptibility; detection
        ***of*** variations in DNA methylation profile of genes in detg.
risk
  of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SVAT, DNA methylation profiles and disease susceptibility; detection
        of ***variations*** in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SYB2, DNA methylation profiles and disease susceptibility; detection
        of variations ***in*** DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SYN1, DNA methylation profiles and disease susceptibility; detection
        ***of*** variations in DNA methylation profile of genes in detg.
risk
  of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SYN2, DNA methylation profiles and disease susceptibility; detection
        ***of*** variations in DNA methylation profile of genes in detg.
risk
  of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SYND1, DNA methylation profiles and disease susceptibility; detection
        ***of*** variations in DNA methylation profile of genes in detg.
risk
  of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SYND2, DNA methylation profiles and disease susceptibility; detection
        of ***variations*** in DNA methylation profile of genes in detg.
        risk of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SYND3, DNA methylation profiles and disease susceptibility; detection
        ***of*** variations in DNA methylation profile of genes in detg.
risk
  of disease)
IT  Gene, animal
    RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
    use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
      (SYND4, DNA methylation profiles and disease susceptibility; detection
        of ***variations*** in DNA methylation profile of genes in detg.
        risk of disease)

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IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SYP, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SYT1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SYT2, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SyB1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Troponins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (T, DNA methylation profiles in gene for and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TAL2, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TAP, DNA methylation profiles and disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TAP2, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TAT, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation

profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TBG, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (TCF-1 (T-cell factor 1), DNA methylation profiles ***in*** gene
 for and disease susceptibility; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TCN1, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TCN2, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use)
 ; BIOL (Biological study); USES (Uses)
 (TCRA, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TCRD, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TECTA, DNA methylation profiles in and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TEK, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(TEL, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TFAP2B, DNA methylation profiles in and disease susceptibility;
 detection of variations ***in*** DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TFAP2C, DNA methylation profiles in and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Transforming growth factor receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (TGF-.beta. receptor, type II, DNA methylation profiles in ***gene***
 for and disease susceptibility; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Transforming growth factor receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (TGF-.beta. receptor, type V, DNA methylation profiles ***in***
 gene for and disease susceptibility; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TGFA, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TGFB2, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TGFB2, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TH, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (THBD, DNA methylation profiles and disease susceptibility; detection

of ***variations*** in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(THBSI, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(THPO, DNA methylation profiles and disease susceptibility; detection
of variations in DNA ***methylation*** profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(THRB, DNA methylation profiles and disease susceptibility; detection
of variations in ***DNA*** methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(THRTA, DNA methylation profiles and disease susceptibility; detection
of variations in ***DNA*** methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(THY1, DNA methylation profiles and disease ***susceptibility*** ;
detection of variations in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(TIMP-1, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(TIMP-3, DNA methylation profiles and disease susceptibility; detection
of variations ***in*** DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(TIMP-4, DNA methylation profiles and disease susceptibility; detection
of ***variations*** in DNA methylation profile of genes in detg.
risk of disease)

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(TKCR, DNA methylation profiles and disease susceptibility;
detection of variations in DNA methylation profile of genes in
detg. risk of disease)

IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TKTL1, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TLN, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNA, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNFA, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNFAR, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNFB, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNFBR, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNN13, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNNT2, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TNXA, DNA methylation profiles and disease susceptibility; detection

of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TP73, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TPA, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TPH, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TP11, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TPM3, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TPT1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRAF1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRAF2, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRAF3, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRAF4, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRAF5, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRAF6, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Cytokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (TRAIL, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT Cytokine receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (TRAIL-R3, DNA methylation profiles in gene for and ***disease***
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)
 IT Gene, animal
 Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRC8, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRH, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TRHR, DNA methylation profiles and disease susceptibility; detection
 of variations in ***DNA*** methylation profile of genes in detg.

risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TSC1, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TSC2, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TSG101, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TSPY, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TTPA, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (TULP1, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Antigens
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Thy-1, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Tip-assocd., DNA methylation profiles of gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Neurotrophic factor receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (TrkA, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal

RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (UCP3, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.

risk
 of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (UCP3, DNA methylation profiles in and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (UFD1L, DNA methylation profiles and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (UGT2, DNA methylation profiles in and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (UGTL, DNA methylation profiles in and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (UMPK, DNA methylation profiles in and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (UMPS, DNA methylation profiles in and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (UOX, DNA methylation profiles in gene for and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (UPA, DNA methylation profiles and disease susceptibility; detection of variations in DNA ***methylation*** profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(UPAR, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (UROS, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (USH2A, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Glycoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (V, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (VAMP8, DNA methylation profiles in gene for and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VDR, DNA methylation profiles in and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VHL, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VIM, DNA methylation profiles in and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VIP, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(VIPR, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VLDLR, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 SYSTEM LIMIT EXCEEDED DURING KWIC/STRING SEARCH
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use)
 ; BIOL (Biological study); USES (Uses)
 (VMAT1, DNA methylation profiles in gene for ***and*** disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VMAT2, DNA methylation profiles in gene for ***and*** disease
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VPP1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VPP3, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (VVTI, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (Vitamin B12-binding, DNA methylation profiles in gene for ***and***
 disease susceptibility; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (WASP, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (WFS1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (WHN, DNA methylation profiles and disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (WHSC1, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (WRN, DNA methylation profiles and disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (WT2, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (WT4, DNA methylation profiles and disease susceptibility; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (Wnt1, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (XDH, DNA methylation profiles in and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (XPA, DNA methylation profiles in and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.

risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (XPC, DNA methylation profiles in and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (XPF, DNA methylation profiles in and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk
 risk
 of disease)
 IT Gene, animal
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (XRCC9, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Y, DNA methylation profiles in gene for and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (YY1, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk
 of
 disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (YY1, DNA methylation profiles in and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ZIC2, DNA methylation profiles and disease susceptibility; detection of variations in ***DNA*** methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ZIC3, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (abl1, DNA methylation profiles and disease susceptibility; detection

of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (abl2, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)
 IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (acidic amino acid transporter, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (acylcarnitine-carnitine transporter, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (adducin, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Behavior
 (aggressive, detn. of genetic susceptibility to; detection of variations in DNA methylation ***profile*** of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (akt1, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (akt2, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (amyloid precursor binding, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (amyloid precursor-like, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)
 IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
 (apoptosis-regulating, Apoptosis inducing factor, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (aspartate, DNA methylation profiles in gene for and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (astrotactins, DNA methylation profiles in gene for and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Nervous system, disease
 (ataxia telangiectasia, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (atrophin 1, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (axl, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (band 4.1, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (band 4.2, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (band 7.2, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (bcl-1, DNA methylation profiles and disease susceptibility; detection of variations in DNA methylation ***profile*** of genes in detg. risk of disease)

risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (bcl-3, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)
 IT Neurotrophic factor receptors
 Neurotrophic factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (brain-derived, DNA methylation profiles in gene ***for*** and
 disease ***susceptibility*** ; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)
 IT Genetic element
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (breakpoint cluster region, detection of methylation in; detection of
 variations in DNA methylation profile of genes in detg. risk
 of
 disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-Fes, DNA methylation profiles and disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-Ha-ras, DNA methylation profiles and disease ***susceptibility***
 ; detection of variations in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-erbA, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-erbB, DNA methylation profiles in and disease susceptibility;
 detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-erbB3, DNA methylation profiles and disease susceptibility;
 detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)
 IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-erbB4, DNA methylation profiles and disease susceptibility;
 detection ***of*** variations in DNA methylation profile of genes
 in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-jun, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-kit, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-mos, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-mp1, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-myb, DNA methylation profiles and disease susceptibility;
 detection of variations in DNA methylation profile of genes in
 detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-myc, DNA methylation profiles and disease susceptibility; detection
 of ***variations*** in DNA methylation profile of genes in detg.
 risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-ros, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-src, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (c-yes, DNA methylation profiles and disease susceptibility; detection
 of variations ***in*** DNA methylation profile of genes in detg.
 risk of disease)

IT Transport proteins

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (calcium transporter, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Calcium-binding proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (calgranulin A, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (carnitine-transporting, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Caveolins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (caveolin 3, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (cdk2, DNA methylation profiles and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Injury
 (cerebral, detn. of genetic susceptibility to behavioral consequences of; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Neurotrophic factor receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ciliary, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (clk1, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cochlin, DNA methylation profiles in gene for and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cofilin, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of

genes in detg. risk of disease)

IT Receptors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (collagen, DNA methylation profiles in gene for and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (contactin, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (copper transporter, DNA methylation profiles in gene for ***and*** disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (cot, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (crk, DNA methylation profiles and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (crkI, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Ion channel
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cyclic nucleotide-gated, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cystinosin, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Mental and behavioral disorders
 (dementia, detn. of genetic susceptibility to; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Human

Methylation
 Test kits
 (detection of variations in DNA methylation profile of genes in
 detg . risk of disease)

IT Bone, disease
 Cardiovascular system, disease
 Connective tissue, disease
 Developmental disorders
 Digestive tract, disease
 Endocrine system, disease
 Headache
 Infection
 Inflammation
 Mental and behavioral disorders
 Muscle, disease
 Neoplasm
 Respiratory system, disease
 Sexual disorders
 Skin, disease
 (detn. of genetic susceptibility to; detection of variations ***in***
 DNA ***methylation*** ***profile*** of genes in detg.
 risk of disease)

IT Drugs
 (detn. of risk of side effects; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Susceptibility (genetic)
 (detn. of; detection of variations in DNA methylation ***profile***
 of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (dhh, DNA methylation profiles and disease susceptibility; detection of
 variations ***in*** DNA methylation profile of genes in detg. risk
 of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (diaphanous 1, DNA methylation profiles in gene for and ***disease***
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (diaphanous 2, DNA methylation profiles in gene for and ***disease***
 susceptibility; detection of variations in DNA methylation profile of
 genes in detg. risk of disease)

IT Central nervous system
 (disease, detn. of genetic susceptibility to; detection of variations
 in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (doublecortins, DNA methylation profiles in gene for and disease
 susceptibility; detection ***of*** variations in DNA methylation
 profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
 (dysfedins, DNA methylation profiles in gene for and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (dyskerins, DNA methylation profiles in gene for and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Translation initiation factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (eIF-4E, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ect2, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Flavoproteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (electron transfer flavoprotein, DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (emerin, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (ems1, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Probes (nucleic acid)
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (for detection of uracil in DNA as ***indicator*** of methylation; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (fos, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (fps, DNA methylation profiles and disease susceptibility; detection of variations ***in*** DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (frataxin, DNA methylation profiles in gene for and disease susceptibility; ***detection*** of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (gap junction-specific, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (gas-3, DNA methylation profiles and disease susceptibility; detection of ***variations*** in DNA methylation profile of genes in detg. risk of disease)

IT Transcription factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (gene EWS, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (gephyrins, DNA methylation profiles in gene for and disease susceptibility; detection ***of*** variations in DNA methylation profile of genes in detg. risk of disease)

IT Neurotrophic factors
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (glial-derived, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (glucose-6-phosphatase translocating, DNA methylation profiles in gene ***for*** and disease susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (glutamine transporter, DNA methylation profiles in gene for and ***disease*** susceptibility; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Transport proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (glycine transporter, DNA methylation profiles in gene for and disease ***susceptibility*** ; detection of variations in DNA methylation profile of genes in detg. risk of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(gro1, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Gene, animal
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (gro2, DNA methylation profiles and disease susceptibility; detection
 of variations in DNA methylation profile of genes in detg.
 risk
 of disease)

IT Proteins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (guanylate cyclase activating, DNA methylation profiles in gene for and
 disease susceptibility; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT G proteins (guanine nucleotide-binding proteins)
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (gustducins, .alpha. subunit, ***DNA*** methylation profiles in
 gene for and disease susceptibility; detection of variations in DNA
 methylation profile of genes in detg. risk of disease)

IT Antibodies and Immunoglobulins
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (heavy chain, DNA ***methylation*** profiles in gene for and
 disease susceptibility; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT 9024-52-6 9026-51-1
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (A, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT 9016-17-5
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (D, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT 9012-96-8, Cystathionase
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT 9000-90-2, .alpha.-Amylase 9000-94-6, Antithrombin III 9000-96-8,
 Arginase 9001-04-1, Pyruvate decarboxylase 9001-05-2, Catalase
 9001-10-9, Pepsinogen 9001-12-1, Matrix metalloproteinase 8 9001-16-5,
 Cytochrome c oxidase 9001-18-7, Dihydrolipoamide dehydrogenase
 9001-30-3, Blood-coagulation factor XII 9001-41-6, Phosphoglucose
 isomerase 9001-42-7, .alpha.-Glucosidase 9001-45-0,
 .beta.-Glucuronidase 9001-47-2, Glutaminase 9001-52-9,
 Fructose-1,6-diphosphatase 9001-67-6, Neuraminidase 9001-75-6, Pepsin
 9001-77-8, Acid phosphatase 9001-80-3, Phosphofructokinase 9001-81-4,
 Phosphoglucomutase 9001-83-6, Phosphoglycerate kinase 9001-88-1,

Phosphorylase kinase 9001-91-6, Plasminogen 9001-97-2, Glycogen branching enzyme 9002-02-2, Succinate dehydrogenase 9002-12-4, Urate oxidase 9002-64-6, Parathyroid hormone 9002-69-1D, Relaxin, isoforms 9002-76-0, Gastrin 9004-02-8, Lipoprotein lipase 9004-06-2, Matrix metalloproteinase 12 9007-43-6, Cytochrome c, biological studies 9012-25-3, Catechol-o-methyltransferase 9012-33-3, Hexosaminidase 9012-47-9, Amylo-1,6-glucosidase 9012-78-6, Choline acetyltransferase 9012-93-5, Ferrochelatase 9013-08-5, Phosphoenolpyruvate carboxykinase 9013-38-1, Dopamine .beta.-hydroxylase 9013-55-2, Blood-coagulation factor XI 9013-56-3, Factor XIII 9013-75-6, Histidase 9014-08-8, Enolase 9014-19-1, Pyruvate carboxylase 9014-36-2, Succinate thiokinase 9014-42-0, Thrombopoietin 9014-55-5, Tyrosine aminotransferase 9014-56-6, Glycogen synthase 9014-74-8, Enterokinase 9015-81-0, 17.beta. Hydroxysteroid dehydrogenase 9015-82-1, Angiotensin converting enzyme 9015-83-2, Phosphoribosyl pyrophosphate synthetase 9015-94-5, Renin, biological studies 9023-58-9, Arginosuccinate synthetase 9023-64-7, Glutamate cysteine ligase 9023-69-2, Asparagine synthetase 9023-70-5, Glutamine synthase 9023-78-3, Triosephosphate isomerase 9023-90-9, MethylmalonylCoA mutase 9023-93-2, Acetyl CoA carboxylase 9023-99-8, Cystathionine .beta. synthase 9024-58-2, Glutamate decarboxylase 9024-78-6, Kynureninase 9025-26-7, Cathepsin D 9025-32-5 9025-35-8, .alpha. Galactosidase A 9025-42-7, Mannosidase, .alpha. 9025-43-8, Mannosidase, .beta. 9025-62-1, Steroid sulfatase 9025-90-5, Hydroxyacyl glutathione hydrolase 9026-22-6, UDP-glucose pyrophosphorylase 9027-21-8, Carnosinase 9027-33-2, N-Acetyltransferase 9027-34-3 9027-43-4, 3-Oxoacid CoA transferase 9027-44-5, HMG-CoA synthase 9027-46-7, Thiolase 9027-56-9, N-Acetylglucosaminidase 9027-65-0, Medium chain Acyl CoA dehydrogenase 9027-88-7, Short chain Acyl CoA dehydrogenase 9027-89-8, Galactocerebrosidase 9027-96-7, Citrate synthase 9028-16-4, Xylitol dehydrogenase 9028-31-3, Aldose reductase 9028-86-8, Aldehyde dehydrogenase 9029-12-3, Glutamate dehydrogenase 9029-38-3, Sulfite oxidase 9029-49-6, Homogentisate 1,2 dioxygenase 9029-61-2, Kynurenine hydroxylase 9029-72-5, 4-Hydroxyphenylpyruvate dioxygenase 9029-73-6 9029-90-7, Carnitine acetyltransferase 9029-97-4, Acetyl CoA acyltransferase 9030-08-4, UDP-glucuronosyltransferase 9030-21-1, Purine nucleoside phosphorylase 9030-42-6, Ornithine .delta.-aminotransferase 9030-50-6, Ketohexokinase 9030-66-4, Glycerol kinase 9030-83-5, HMG-CoA lyase 9031-02-1, .alpha.-Ketoglutarate dehydrogenase 9031-14-5, Lecithin cholesterol acyltransferase 9031-37-2, Ceruloplasmin 9031-72-5, Alcohol dehydrogenase 9031-86-1, Aspartoacylase 9031-96-3, Peptidase A 9032-02-4 9032-15-9, .alpha.-Dextrinase 9032-25-1, NADH cytochrome b5 reductase 9032-88-6, Fumarase 9034-40-6, LHRH 9035-34-1, Cytochrome a 9035-58-9, Blood coagulation Factor III 9035-74-9, Glycogen phosphorylase 9035-75-0, Chymotrypsinogen 9036-22-0, Tyrosine hydroxylase 9036-23-1, Uridine monophosphate kinase 9036-37-7, .delta.-Aminolevulinate dehydratase 9037-21-2, Tryptophan hydroxylase 9037-65-4, Fucosidase, .alpha.-L- 9039-53-6, Urokinase 9041-46-7 9042-64-2, DOPA decarboxylase 9044-85-3, 3.beta. Hydroxysteroid dehydrogenase 9047-22-7, Cathepsin B 9050-70-8, Proline dehydrogenase 9054-54-0, Transacylase 9054-65-3, Branched chain aminotransferase 9054-75-5, Guanylyl cyclase 9054-84-6, Xanthine dehydrogenase 9054-89-1, Superoxide dismutase 9054-94-8, Galactosyltransferase, uridine diphosphogalactose-acetylglucosamine 9055-02-1, Prekallikrein 9055-67-8, Poly(ADPribose) synthetase 9056-26-2, Peptidase B 9059-22-7, Heme oxygenase 9061-61-4, Nerve growth factor 9067-69-0, Acetylgalactosaminyltransferase, [blood-group

substance] .alpha. 9068-68-2, Arylsulfatase A 9068-75-1, Glucagon
 synthetase 9073-56-7, .alpha.-L-Iduronidase 9074-10-6, Biliverdin
 reductase 9075-24-5, Aspartylglucosaminidase 9079-67-8, NADH
 dehydrogenase 9080-21-1, 7-Dehydrocholesterol reductase 9082-57-9,
 Inosine triphosphatase 9082-72-8 11016-39-0, Properdin 11085-36-2,
 Human placental lactogen 12651-27-3, Transcobalamin 1 12651-28-4,
 Transcobalamin 2 24305-27-9, Thyrotropin releasing hormone 33507-63-0,
 Substance P 37184-63-7, Inositol monophosphatase 37211-69-1,
 2,3-Bisphosphoglycerate mutase 37213-56-2, Factor D 37221-79-7,
 Vasoactive intestinal polypeptide 37237-43-7, Galactosyltransferase,
 uridine diphosphogalactose-glycoprotein 37255-32-6, Dihydrodiol
 dehydrogenase 37255-38-2, GlutarylCoA dehydrogenase 37255-40-6,
 Glycine dehydrogenase 37257-19-5, Dihydroxyacetone phosphate
 acyltransferase 37270-64-7, AcylCoA thioesterase 37274-61-6,
 Isovaleryl CoA dehydrogenase 37277-69-3, Fucosyltransferase 3
 37288-40-7, .alpha.-Acetylglucosaminidase 37289-41-1, Sulfamidase
 37290-90-7, Methionine synthase 37340-55-9, Uroporphyrinogen III
 synthase 39346-44-6, Inter-.alpha.-trypsin inhibitor 39362-14-6,
 Prolactin releasing hormone 39379-15-2, Neurotensin 39401-02-0,
 Coumarin 7-hydroxylase 39419-81-3, Holocarboxylase synthetase
 50936-59-9, Iduronate 2 sulfatase 52906-92-0, Motilin 53230-14-1,
 Preprothrombin 53986-32-6, Protoporphyrinogen oxidase 54004-64-7,
 Rhodopsin kinase 55354-43-3, Arylsulfatase B 56626-18-7,
 Fucosyltransferase 56645-49-9, Cathepsin G 59299-00-2,
 N-Acetylgalactosamine-6-sulfate sulfatase 59536-73-1, Phosphomannomutase
 59536-74-2, Long chain Acyl CoA dehydrogenase 60320-99-2,
 N-Acetylglucosamine-6-sulfatase 60748-73-4, Cathepsin H 61512-21-8,
 Thymosin 62213-29-0, Enoyl CoA isomerase 62229-50-9, Epidermal growth
 factor 65802-85-9, Prostaglandin D synthase 66796-54-1,
 Proopiomelanocortin 67526-96-9, Galactosyltransferase, uridine
 diphosphogalactose-acetylglactosamine 3.beta.- 67763-96-6, Insulin like
 growth factor 1 67763-97-7, Insulin like growth factor 2 68651-94-5
 70356-40-0, DNA glycosylase 71822-25-8, 5,10-Methylenetetrahydrofolate
 reductase (NADPH) 72497-28-0, Cytochrome P 450 8 74812-49-0, Parkin
 74870-74-9, UMP synthetase 75922-89-3, Pyrroline-5-carboxylate
 synthetase 76901-00-3, Platelet activating factor acetylhydrolase
 78689-77-7, 6-Phosphofructo-2-kinase 78849-38-4, Leukin 78990-62-2,
 Calpain 79747-53-8, Protein tyrosine phosphatase 79955-99-0, Matrix
 metalloproteinase 3 80043-53-4, Gastrin releasing peptide 80295-33-6,
 Complement C1q 80295-34-7, Complement C1r 80295-35-8, Complement C1s
 80295-38-1, Complement C1inhibitor 80295-40-5, Complement component C2
 80295-41-6, Complement component C3 80295-49-4, Complement C4A
 80295-50-7, Complement C4B 80295-53-0, Complement C5 80295-56-3,
 Complement C6 80295-57-4, Complement C7 80295-58-5, Complement C8
 80295-59-6, Complement C9 80295-65-4, Complement factor H 80619-02-9,
 Leukotriene A4 synthase 81604-65-1, Heparin Cofactor II 82249-72-7,
 Protein kinase HRI 82707-54-8, Neprilysin 82869-38-3, 2,4-Dienoyl CoA
 reductase 86551-03-3, Electron-transferring flavoprotein dehydrogenase
 88402-55-5, Prodynorphin 90597-47-0, Peptidylglycine .alpha.-amidating
 monooxygenase 90698-32-1, Leukotriene C4 synthase 91448-99-6, Cystatin
 C 92769-12-5, Proliferin 93443-35-7, Preproenkephalin 94716-09-3,
 Cathepsin K 95567-84-3, Dihydrolipoamide transacylase
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)

(DNA methylation profiles in gene for and disease

susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)

IT 96231-41-3, .beta.-Inhibin 97089-82-2, 6-Pyruvoyltetrahydropterin
 synthase 97501-92-3, Chymase 99194-04-4, Cystatin B 99676-46-7,
 Neuroendocrine convertase 1 102577-23-1, Neurokinin B 103106-89-4,
 .alpha.-Inhibin 103370-86-1, Parathyroid hormone related peptide
 106283-10-7, Inositol-1,4,5-trisphosphate kinase 106602-62-4, Islet
 amyloid polypeptide 106956-32-5, Oncostatin M 109489-77-2, Tetranectin
 110910-42-4, Cathepsin E 111694-13-4, Inositol polyphosphate
 1-phosphatase 114051-78-4, LCK tyrosine kinase 114101-80-3, ProMelanin
 concentrating hormone 114949-22-3, Activin 115966-66-0, Histatin 1
 115966-67-1, Histatin 3 117147-70-3, Amphiregulin 119418-04-1, Galanin
 120178-12-3, Telomerase 121797-22-6, Histatin 2 122191-40-6, Caspase 1
 122879-69-0, Endothelin 2 123626-67-5, Endothelin 1 124861-55-8
 125692-40-2, Endothelin 3 125978-95-2, Nitric oxide synthase
 134712-57-5, Oxygenase, steroid 27-mono- 138238-81-0, Endothelin
 converting enzyme 138359-29-2 139466-48-1, Protein C inhibitor
 139639-23-9, Plasminogen activator, Tissue-type 140158-49-2, Hippocampal
 cholinergic neurostimulating peptide 140208-23-7, Plasminogen activator
 inhibitor 1 140208-24-8, Tissue inhibitor of metalloproteinase 1
 140610-48-6, Matrix metalloproteinase 10 141256-52-2, Matrix
 metalloproteinase 7 141349-86-2, Cyclin dependent kinase 2
 141436-78-4, Protein kinase C 141588-27-4, Protein kinase G
 142008-29-5, Cyclic AMP-dependent protein kinase 142243-03-6,
 Plasminogen activator inhibitor 2 142805-58-1, MEK kinase 143375-65-9,
 Cyclin dependent kinase 1 144697-17-6, c-Src tyrosine kinase
 145267-01-2, Matrix metalloproteinase 11 145539-84-0, Exostosin 2
 145809-21-8, Tissue inhibitor of metalloproteinase 3 146480-35-5, Matrix
 metalloproteinase 2 146480-36-6, Matrix metalloproteinase 9
 146702-84-3, MEK kinase 147014-96-8, Cyclin dependent kinase 5
 147014-97-9, Cyclin dependent kinase 4 148047-29-4, Gene TEK protein
 tyrosine kinase 148640-14-6, Protein kinase B 149147-12-6, Bruton's
 tyrosine kinase 150605-49-5, Palmitoylprotein thioesterase
 151662-20-3, DM Kinase 152478-56-3, Janus kinase 1 152478-57-4, Janus
 kinase 2 153190-71-7, Cyclin dependent kinase 3 154531-34-7, Epidermal
 growth factor-like growth factor, heparin-binding 157482-36-5, Janus
 kinase 3 158736-49-3, .beta.-Secretase 161052-08-0, TIE receptor
 tyrosine kinase 161384-17-4, Matrix metalloproteinase 14 169494-85-3,
 Leptin 169592-56-7, Caspase 3 169592-62-5, Cyclin dependent kinase 10
 170347-52-1, Gene Nsk2 protein kinase 172308-17-7, Matrix
 metalloproteinase 15 175449-82-8, Matrix metalloproteinase 13
 179241-78-2, Caspase 8 180189-96-2, Caspase 9 182372-14-1, Caspase 2
 182372-15-2, Caspase 6 182762-08-9, Caspase 4 182938-13-2,
 Cyclin-dependent kinase 9 182970-56-5, Matrix metalloproteinase 16
 185402-46-4, Phytanoyl CoA hydroxylase 186207-03-4, Tissue inhibitor of
 metalloproteinase 4 186270-49-5, Angiopoietin 1 188364-80-9, Matrix
 metalloproteinase 19 189088-85-5, Caspase 10 189258-14-8, Caspase 7
 192465-11-5, Caspase 5 193830-08-9, Growth/differentiation factor 5
 194368-66-6, Angiopoietin 2 202420-40-4, Gene STK11 protein kinase
 203810-08-6, Matrix metalloproteinase 17 205944-50-9, Osteoprotegerin
 207004-87-3, Methionine synthase reductase 213903-53-8, Cryptochrome 1
 216864-07-2, .alpha.-Synuclein 216864-08-3, .beta.-Synuclein
 216864-09-4, .gamma.-Synuclein 216974-70-8, Ephrin B2 receptor kinase
 227604-60-6, Proteinase, matrix metallo-, MT5-MMP 245359-74-4, Orexin
 248259-60-1, Ephrin A8 receptor kinase 252351-68-1, Leukotriene B4
 synthase 252351-86-3, Matrix metalloproteinase 6 252354-25-9, Gene
 STK2 protein kinase 278616-03-8, Peptidase E 303014-92-8, Cyclin
 dependent kinase 6 329736-03-0, Cytochrome P 450 3A4 329764-85-4,
 Cytochrome P 450 1A1 329900-75-6, Prostaglandin endoperoxide synthase 2

329978-01-0, Cytochrome P 450 2C9 330196-64-0, Cytochrome P 450 1A2
 330196-93-5, Cytochrome P 450 2E1 330197-29-0, Cyclin-dependent kinase 7
 330207-11-9, Cytochrome P 450 2B6 330207-13-1, Cytochrome P 450 2C8
 330207-52-8, Cytochrome P 450 4B1 330589-90-7, Cytochrome P 450 2C19
 330596-22-0, Cytochrome P 450 1B1 330597-62-1, Cytochrome P 450 2D6
 330824-80-1, Cytochrome P 450 CYP21 331823-27-9, Cytochrome P 450 2A1
 336193-98-7, Exostosin 1 336874-97-6, Cytochrome P 450 3A5
 338454-52-7, .gamma.-Secretase 338455-07-5, .alpha.-Secretase
 338969-62-3, Cytochrome P 450 2A3 344576-15-4, Cytochrome P 450 3A7
 350986-45-7, Cytochrome P 450 2C18 351496-11-2, Cytochrome P 450 4A11
 359643-03-1, Cytochrome P 450 2F1 359868-69-2, Cytochrome P 450 2J2
 360055-02-3, Myotubularin 360069-51-8, Cryptochrome 2 362479-32-1,
 Protein phosphatase 1 403652-37-9, CDK8 kinase 436097-19-7, Cytochrome
 P 450 2A7 440352-47-6, Cytochrome P 450 4F3 440354-11-0, P 450 7A
 440354-98-3, Cytochrome P 450 11A 440355-29-3, Cytochrome P 450 11B2
 440356-60-5, Cytochrome P 450 27B1 440356-80-9, Cytochrome P 450 51
 440363-51-9, P 450 2A13 440363-68-8, P 450 3A3 440363-88-2, P 450 5A1
 440365-05-9, Cytochrome P 450 17 440367-91-9, Cytochrome CYP19
 440368-52-5, Cytochrome CYP24
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT 37205-61-1, Proteinase inhibitor
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (I, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT 141467-21-2
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (II, DNA methylation profiles in gene for and disease
 susceptibility ; detection of variations in DNA methylation
 profile of genes in detg. risk of disease)
 IT 9031-54-3, Sphingomyelinase
 RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic
 use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (SEMA4, DNA methylation profiles disease ***susceptibility*** ;
 detection of variations in DNA methylation profile of genes in detg.
 risk of disease)

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 AN 2008127501 EMBASE <<LOGINID::20090423>>
 TI ***DMBT1*** as an archetypal link between infection, inflammation, and
 cancer.
 AU Mollenhauer, Jan, Dr. (correspondence); End, C.; Renner, M.; Lyer, S.;
 Poustka, A.
 CS Division of Molecular Genome Analysis, Deutsches Krebsforschungszentrum,
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 AU Mollenhauer, Jan, Dr. (correspondence); Lyer, S.
 CS Department of Molecular Oncology, Institute of Medical Biology, University
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 SO Immunologia, (Oct 2007) Vol. 26, No. 4, pp. 193-209.
 Refs: 141

ISSN: 0213-9626 CODEN: INMNEC

CY Spain

DT Journal; General Review; (Review)

FS 026 Immunology, Serology and Transplantation
 029 Clinical and Experimental Biochemistry
 004 Microbiology: Bacteriology, Mycology, Parasitology and Virology

LA English

SL English; Spanish; Castilian

ED Entered STN: 2 Apr 2008
 Last Updated on STN: 2 Apr 2008

AB Epidemiological and molecular studies have pointed to links between infection, inflammation and cancer, which appear to converge at the molecular level in mechanisms associated with innate immunity. Here, the present knowledge about the secreted scavenger receptor cysteine-rich (SRCR) protein Deleted in Malignant ***Brain*** Tumors 1 (***DMBT1***), also known as glycoprotein-340 or salivary agglutinin, is summarized. ***DMBT1*** is differentially expressed in various cancer types with most of these displaying a downregulation. As a lumenally secreted protein, it exerts functions in innate pathogen defense and the regulation of inflammation. By contrast, it may trigger epithelial and stem cell differentiation as an extracellular matrix protein. Its broad responsiveness to pathophysiological stimuli points to a general role in cell and tissue protection, which possibly is best circumscribed by linking pathogen defense and regulation of the inflammatory response to regenerative processes. Compelling similarities to the functions of SRCR proteins in primitive metazoa such as sponges and sea urchins exist, which support that its various functions may rely on an ancient and simple principle, i.e. the differential mediation of adhesion and anti-adhesion. Similar to NF-.kappa.B signaling pathways, which are also indirectly regulated by ***DMBT1***, the present state of the art indicates that ***DMBT1*** not only could exert disease- ***preventing***, but probably also disease-promoting functions. Taken together, ***DMBT1*** may represent a paradigm for an archetypal link between infection, inflammation, and cancer.

TI ***DMBT1*** as an archetypal link between infection, inflammation, and cancer.

AB . . . mechanisms associated with innate immunity. Here, the present knowledge about the secreted scavenger receptor cysteine-rich (SRCR) protein Deleted in Malignant ***Brain*** Tumors 1 (***DMBT1***), also known as glycoprotein-340 or salivary agglutinin, is summarized. ***DMBT1*** is differentially expressed in various cancer types with most of these displaying a downregulation. As a lumenally secreted protein, it. . . principle, i.e. the differential mediation of adhesion and anti-adhesion. Similar to NF-.kappa.B signaling pathways, which are also indirectly regulated by ***DMBT1***, the present state of the art indicates that ***DMBT1*** not only could exert disease- ***preventing***, but probably also disease-promoting functions. Taken together, ***DMBT1*** may represent a paradigm for an archetypal link between infection, inflammation, and cancer. Understanding its complex mode of action promises. . .

CT Medical Descriptors:
 Actinobacillus
 Actinomyces
 adaptive immunity
 alternative RNA splicing

Bacteroides fragilis
 biliary tract infection
 cell protection
 cellulitis
 chromosome rearrangement
 dental caries
 diarrhea
 disease association
 down regulation
 endocarditis
 epithelium
 Escherichia coli
 evolution
 gastritis
 gastroenteritis
 gene deletion
 genetic susceptibility
 genomics
 Haemophilus influenzae type a
 Helicobacter pylori
 Human immunodeficiency virus
 infection
 inflammation
 inflammatory disease
 Influenza virus A
 innate immunity
 Klebsiella oxytoca
 Lactobacillus casei
 meningitis
 molecular biology
 Moraxella catarrhalis
 mucosal immunity
 Neisseria meningitidis
 neoplasm
 nonhuman
 pathogenesis
 Peptostreptococcaceae
 periodontitis
 pharyngitis
 pneumonia
 Prevotella intermedia
 protein expression
 protein structure
 receptor. . .

L28 ANSWER 21 OF 22 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights reserved on STN
 AN 1999045049 EMBASE <<LOGINID::20090423>>
 TI Genetic analysis of ***brain*** tumors.
 AU Tabuchi, K., Dr. (correspondence); Kohata, T.; Fukuyama, K.
 CS Department of Neurosurgery, Saga Medical School, 5-1-1 Nabeshima, Saga-shi, Saga 849-8501, Japan.
 SO Japanese Journal of Neurosurgery, (1999) Vol. 8, No. 1, pp. 3-12.
 Refs: 52
 ISSN: 0917-950X CODEN: JJNEE7
 CY Japan
 DT Journal; Conference Article; (Conference paper)

FS 016 Cancer
022 Human Genetics
005 General Pathology and Pathological Anatomy
008 Neurology and Neurosurgery

LA Japanese

SL English; Japanese

ED Entered STN: 25 Feb 1999

Last Updated on STN: 25 Feb 1999

AB It is generally accepted that the accumulation of multiple genetic alterations is essential for development of human tumor. The altered genes can be classified into 5 groups according to their function: (1) cell growth factor and its receptor genes, (2) cell cycle regulator genes, (3) DNA repair genes, (4) genes related to cell invasion and adhesion, (5) genes for angiogenesis. We speculate that at least one out of each group of genes is required for the development of glial tumors. Two different kinds of glioblastomas are proposed, that is, the progression type and the de novo type. The former is believed to be associated with p53 alteration, but the latter is not. The p53 alteration can cause the cell cycle disregulation, failure of DNA repair, impairment of apoptosis induction, acceleration of neovascularization and acquisition of drug resistance. Unexpectedly, the de novo type glioblastomas, which are with wild type p53, show worse clinical course than the progression type glioblastomas. Regarding the de novo type glioblastomas, certain alternative genetic changes other than p 53 alteration may act as more adverse factor(s). Recently, it has been shown that the genetic alterations on chromosome 10, such as FGFR2, Mxi-1, PTEN and ***DMBT1***, are frequently seen in glioblastomas. The authors verified that the alteration of FGFR2 was closely associated with unfavorable clinical outcome of the patients with glioblastoma. Thus, genotypic analysis of ***brain*** tumors will provide the essential information for selecting the modality of ***treatment*** as well as predicting the prognosis.

TI Genetic analysis of ***brain*** tumors.

AB . . . adverse factor(s). Recently, it has been shown that the genetic alterations on chromosome 10, such as FGFR2, Mxi-1, PTEN and ***DMBT1***, are frequently seen in glioblastomas. The authors verified that the alteration of FGFR2 was closely associated with unfavorable clinical outcome of the patients with glioblastoma. Thus, genotypic analysis of ***brain*** tumors will provide the essential information for selecting the modality of ***treatment*** as well as predicting the prognosis.

CT Medical Descriptors:

angiogenesis

****brain tumor: ET, etiology***

conference paper

DNA repair

glioblastoma: ET, etiology

glioma: ET, etiology

human

human cell

neovascularization (pathology)

prognosis

tumor suppressor gene

*protein p53

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AN 2003:882324 SCISEARCH <<LOGINID::20090423>>

GA The Genuine Article (R) Number: 730KV

TI Meningiomas: loss of heterozygosity on chromosome 10 and marker-specific correlations with grade, recurrence, and survival

AU Rempel S A (Reprint)

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AU Mihaila D; Jankowski M; Gutierrez J A; Rosenblum M L; Newsham I F; Bogler O

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CYA USA

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DT Article; Journal

LA English

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ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Purpose: In a study of 208 meningiomas, we found a high incidence of loss of heterozygosity (LOH) on chromosome 10 in benign (73.4%), atypical (80.0%), and malignant (86.7%) tumors. A large percentage of the benign and atypical tumors and an increasing percentage of malignant tumors had LOH on multiple loci (43.9%, 45%, and 66.7%, respectively). The high incidence of LOH occurring early in meningioma progression suggests that LOH at individual alleles may serve as a marker of clinically relevant alterations useful for patient diagnosis, the subclassification of tumors, and/or the ***treatment*** of patients.

Experimental Design: To test this, we examined 208 sporadic and recurrent meningiomas of all grades for correlations between LOH at 11 markers on chromosome 10 and tumor location, histology, and grade and patient race, gender, age, recurrence, and survival.

Results: Several significant correlations were found. The data indicate that genetic differences occur not only between tumors of different grade, but also between tumors of the same grade, and therefore may be useful to define genetic subsets with clinical implications. LOH at D10S179 (P = 0.001) or D10S169 (P = 0.004) is most likely present in higher-grade meningiomas and, when present in benign tumors, may signify sampling error or a morphologically benign but biologically aggressive tumor. Furthermore, LOH at D10S209 (P = 0.06) and D10S169 (P = 0.01) may predict shorter survival and/or higher rates of recurrence, respectively, in tumors with benign or malignant histology.

Conclusions: We conclude that these chromosome 10 markers deserve further testing as unfavorable prognostic indicators for meningioma patients.

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STP KeyWords Plus (R): NERVOUS-SYSTEM; ALLELIC LOSSES; GENETIC MODEL; ***BRAIN*** -TUMORS; PROGRESSION; ***DMBT1***

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